

Encyclopedia of
**EDUCATIONAL
THEORY *and*
PHILOSOPHY**



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JAMES, WILLIAM

William James (1842–1910), widely regarded as one of America's most original and versatile thinkers, was influential in philosophy, psychology, and, to a lesser degree, education. His thought was broad, diverse, and very capable of absorbing ambiguity and even at times contradictory truths. As a founder of pragmatism, the first genuinely American school of philosophical thought, James's epistemology and theory of truth greatly influenced John Dewey's thinking. Although an empiricist of sorts, his pluralism helped pave the way for the acceptance of postmodern thinking. Often referred to as the father of American psychology, James combated the reductive tendencies of the advancing positivist and behaviorist psychologies of his time.

Born in 1842, James spent the bulk of his professional life on the faculty at Harvard as a professor teaching physiology, psychology, and, eventually, philosophy. James grew up in New England and Europe; his brother was the novelist Henry James and his sister, the writer Alice James. When in Boston, his home was frequented by noted intellectual family friends, including John Stuart Mill, Henry David Thoreau, and Ralph Waldo Emerson.

After receiving an MD degree from Harvard's School of Medicine, James began teaching physiology. Over the course of his career, his interests moved from physiology to psychology to philosophy, and his thought in each area was clearly influenced by his previous work in the others. For example, his psychology drew on physiology, setting

up a psychology grounded in the physical contexts of human existence, and his philosophy sprang from his psychological work. All of James's thought was also strongly influenced by Darwinian evolutionary theory. The result in psychology was a functionalism that focused on the adaptive qualities of mind; in philosophy, this led to a pluralism that attempted to capture the variety of ways of being and knowing and the concrete functions and benefits of these various ways of knowing.

James's intellectual legacy thus possesses several strains. His most enduring works include *The Principles of Psychology*; *The Varieties of Religious Experience*; *Pragmatism: A New Name for Some Old Ways of Thinking*; *The Will to Believe*; and *Talks to Teachers on Psychology*. Given the expansive nature of James's thought and the short space here, what follows is a focused sketch of his importance as a psychologist and as a founder of pragmatism. The entry concludes with brief treatment of his influence on psychology and educational psychology.

James's Psychology

In the history of both psychology and educational psychology, James often plays the role of forgotten founding father and as a foil to the behavioral outlook in psychology that was emerging at the turn of the 20th century. Instead of accepting behaviorism's narrowing focus on observable stimulus-response dyads, James sought to understand how the thinking organism existed in its wider contexts. His focus led to the psychological school known as

American functionalism. It took James more than a decade to complete the two volumes that constituted his psychological masterwork *Principles of Psychology*. Released in 1890, the work is considered to be the first substantive American psychology textbook, and while it was influential, critics tended to focus on what they saw as an overly inclusive scope. James condensed the two volumes into one denser, but still very readable, book titled *Psychology: The Briefer Course*. The *Principles* is known as “the James” and *Briefer Course* has come to be known, affectionately, as “Jimmy” or “the Jimmy.”

Principles articulated an evolutionary functionalism that started with the maxim that humans are first and foremost practical beings and that the mind (and hence ideas) serves to help us adapt or function in our world. James refers to this as the biological conception of mind, and it is a key orientation that Dewey would adopt and apply to children working with ideas in the classroom. James also introduced the “stream of consciousness” as a way to describe how our mind never exists in the same state twice because the mind is changed by each state and because contexts affecting the mind are also changing.

Pragmatism, Pluralism, and Method

Although an important thinker in American philosophy in his own right, James’s influence in educational philosophy has been less direct, and it is probably best to think of his work as a founder of pragmatism as exerting indirect influence on educational philosophy; as noted earlier, his ideas were deeply influential on John Dewey who then applied his version of pragmatism (together with James’s evolutionary-oriented psychology) to education.

James claimed that truth “happens” to an idea. It is a label applied to an idea once it has been thought of and successfully acted on. This is best illustrated in James’s famous example of the squirrel and the tree. In *Pragmatism*, James tells the story of a group of campers who ask James to settle their philosophical dispute: If a squirrel is on the opposite side of a tree trunk from a man and the man circles the tree while the squirrel maintains its position on the other side of the tree from the man, then did the man “go around” the squirrel? James answered that it depends on how you define your terms and what you are trying to accomplish in asking the question. Thus, the pragmatic theory of truth is a method that

seeks to clarify terms and to defuse many seemingly intractable but practically unimportant philosophical dilemmas by considering the purposes and consequences of ideas and actions.

James also devoted effort to other pressing philosophical questions of his day, such as the debate between free will and predestination. While personally very aware of the tragic and dark sides of human existence—James sometimes suffered from incapacitating bouts of depression and anxiety—he decidedly came down on the side of free will, going so far to famously claim that his first act of free will was to believe in free will. This statement epitomizes James’s pragmatic belief that ideas ought to be judged according to their effects when put into action. Belief in free will had very real consequences for James. As he tells it, it allowed him to pull out of his existential funk and to claim agency in his life.

The Variety of Religious Experience is a work still used in many religious studies courses. More social science than philosophy, the work is an extension or application of this idea that the consequences of ideas are the best way to judge their worth. In *Varieties*, James empirically studied extreme religious experience and found religious experience to be primarily *emotional* in nature. This is a stark contrast to his more cognitive/intellectual explanation of how we know, which he puts forth in *Pragmatism*, but these experiences are justified in pragmatic terms because James establishes that even though these intensely personal experiences are difficult or impossible for others to fully understand, the consequences of such experiences are quite real to the experiencer and affect the world in very real ways.

James’s Influence in Education

James took some of the central and most relevant ideas in *Principles* and presented them in a series of very popular lectures at Harvard to local school teachers. The talks were turned into a book, *Talks to Teachers on Psychology*, which has been reprinted scores of times. In terms of education and educational psychology, this is probably James’s most well-known work. Perhaps most important is Chapter 3 of this book, “The Child as a Behaving Organism,” in which in four short pages he summarizes the functional-evolutionary conception of mind in which it is argued that the function of ideas is to be worked with, to direct human action. The impact of this discussion can readily be seen in Dewey’s *The School and Society*.

James sets up his series of talks with a warning for psychologists and other enthusiasts not to overreach when thinking about the role of psychology in education:

I say moreover that you make a great, a very great mistake, if you think that psychology, being the science of the mind's laws, is something from which you can deduce definite programmes and schemes and methods of instruction for immediate schoolroom use. Psychology is a science, and teaching is an art; and sciences never generate arts directly out of themselves. An intermediary inventive mind must make the application, by using its originality. . . . To know psychology, therefore, is absolutely no guarantee that we shall be good teachers. To advance to that result, we must have an additional endowment altogether, a happy tact and ingenuity to tell us what definite things to say and do when the pupil is before us. That ingenuity in meeting and pursuing the pupil, that tact for the concrete situation, though they are the alpha and omega of the teacher's art, are things to which psychology cannot help us in the least. (James, 1899/1962, p. 3)

James's thoughtful and rich, yet humble, empirical attitude is something today's educational researchers could benefit from by taking it seriously. Just as in his own day, when his psychology was positioned in opposition to the advancing reductive positivism of the time, employing James's thought in contemporary contexts might serve as a balance to notions of scientifically based educational research as the only promising way to improve teaching and learning.

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See also Dewey, John; *Evolution and Educational Psychology*; *Spectator Theory of Knowledge*

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JEWISH EDUCATIONAL PHILOSOPHY

What is Jewish educational philosophy? The adjective *Jewish*, like *Christian*, *Hindu*, or *Muslim*, is particular, suggesting a basis in or relevance to a particular ethnic or religious community and its traditions of thought and practice. *Philosophy*, on the other hand, is universal, suggesting a field of inquiry with universal applicability. So the term *Jewish educational philosophy* may seem as confused as “Jewish philosophy of physics.” But there are a number of defensible conceptions of the field, which can be thought of as distinct modes of Jewish educational philosophy.

First, some scholars pursue an excavation of the educational ideas within the Jewish literary and legal tradition. Second, somewhat more narrowly, scholars excavate those educational ideas from within the tradition of Jewish philosophy, in particular. Both of these efforts to identify and examine ideas about education are descriptive or expository in nature, rather than normative. That is, they ask, “What does this idea mean?” and “What would education look like if we took this idea seriously?” rather than asking, “*Should* one follow or try to implement this idea?”

In a third mode of Jewish educational philosophy, scholars pursue a kind of normatively oriented dialogue with sources from within the Jewish tradition. The fourth mode is the scholarly effort to articulate and examine the aims or purposes of Jewish education. Finally, in a fifth mode, Jewish educational philosophy strives to illuminate and even provide guidance regarding problems of Jewish educational practice.

This entry will discuss each of these modes in turn, providing examples from Jewish tradition,

philosophy, and educational practice as the discussion proceeds. An added benefit of framing the entry in terms of these five modes is that no claims need to be made about what all Jewish educational theorists believe. Philosophers are not generally known for their ability to reach agreement, and scholars in this field are no exception.

Mode 1: The Excavation of Ideas From the Jewish Tradition

Jewish educational philosophy may be taken to be an inquiry into what Jewish texts say about important educational issues (keeping in mind, of course, that the Jewish tradition encompasses multiple voices on just about any topic that can be thought of). Thus, scholars might (and do) ask, What do the traditions found in the Hebrew Bible, the rabbinic texts of the 1st to 6th centuries, the medieval Jewish philosophical texts, the early modern Jewish mystical texts, or any other identifiably Jewish sources say about the purposes of education, about the essential content of education (curriculum), about pedagogy, about access to education (who gets to be a student in formal education settings), and about the centrality of education within Jewish culture? Nor must the discussion be restricted to written texts. Jewish educational philosophy might also be developed out of the *practices* of Judaism, even if—or especially if—they do not conform to the central texts on the topic. Regardless of what the texts say, how do those practices testify to a set of beliefs or understandings about education?

An example here is the question of girls' and women's access to traditional Jewish education. The central legal texts of the Jewish tradition are ambivalent at best about providing educational access to girls and women. But recent scholarship has documented a substantial presence of girls in East European Jewish *cheders* (primary schools) in the 18th and 19th centuries. In other words, apparently, the practice in that place and that time did not conform to the dominant voice in the textual tradition.

However, it needs to be emphasized that this kind of intellectual project—the project of excavation of ideas from texts or practices of the past—is descriptive or expository in nature, rather than normative. So whether the texts under consideration are opposed to women's education, and whether the actual practice in Eastern Europe indicates support for women's education, tells us nothing about what *ought* to be the case (without, of course, some

corollary argument about why anyone ought to take the text, or the practice, as a norm for their own educational decision making).

Mode 2: Educational Implications of Jewish Philosophical Texts

Sometimes, the Jewish texts to which scholars turn are explicitly philosophical, where “philosophical” simply means that the text advances a set of claims on the basis of arguments about the good life, or the good society, or the nature of being or of knowledge, or more narrowly, about why Jews ought to do or believe whatever they ought to do or believe. In this sense, Bible and Talmud are not philosophical. But the category does include classical texts, such as *The Book of Beliefs and Opinions* by Sa'adia Gaon (882–942) and *The Guide for the Perplexed* by Moses Maimonides (1135–1204), and contemporary texts, such as *Engendering Judaism: An Inclusive Theology and Ethics* by Rachel Adler (1943–) and *Sacred Attunement: A Jewish Theology* by Michael Fishbane (1943–).

When scholars turn to texts such as these to excavate the ideas about Jewish education embedded within them or to discern their educational implications—when they ask, among other things, “What would it look like if we took this idea seriously in Jewish education?”—then they are pursuing Jewish educational philosophy in Mode 2. But even in these cases, discovering that a particular Jewish philosopher once wrote something about educational processes or purposes tells us little about what anyone *ought* to do or say in the educational sphere. The *object* of inquiry may be normative, but the *mode* of inquiry is descriptive or expository.

Consider, for example, the argument by Maimonides, the greatest medieval Jewish philosopher, that all of Jewish law and practice is designed to develop the intellectual, spiritual, and moral character of the individual. For philosophers of education, this is intriguing. If all of Judaism is educational, then what is Jewish education? How might we think differently about the purposes of Jewish education in light of this educational purpose of all of Judaism? Pursuing this inquiry falls squarely into what we are calling Mode 2 of Jewish educational philosophy. If we take Maimonides's claim seriously, it might have profound implications for how we conceptualize Jewish education and its purposes—but the inquiry itself does not provide an argument that we actually *ought* to take it seriously, that Maimonides ought to guide anyone's educational decision making.

Whatever the object of inquiry—whether it is a biblical text, a classical legal text, a Jewish practice in a particular time and place, or a philosophical text—the observation that Modes 1 and 2 are descriptive rather than normative is not intended as a criticism. In fact, scholarship in this mode can often be extremely valuable to practitioners, in an indirect way. Rather than claiming to prescribe Jewish educational ideals, Jewish educational philosophy in Modes 1 and 2 has the potential to broaden horizons and to improve practice simply by inviting practitioners to imagine possibilities and to explore alternatives that are radically different from the ones that they know.

Mode 3: Normative Dialogues With the Jewish Tradition

Not surprisingly, some scholars are not satisfied with a descriptive excavation of Jewish educational ideas. They are motivated in their inquiries by the desire to provide guidance to contemporary Jewish educators and sometimes to others as well. Doing Jewish educational philosophy in Mode 3 presumes that the texts to which a scholar turns have some authority—that they are worth listening to. Outsiders to the Jewish tradition (or other religious traditions) sometimes imagine that this process is a straightforward one: If you grant the texts some kind of authority, then presumably you have committed yourself to doing whatever the text tells you to do. But this is more complicated than it may seem.

Consider Proverbs 22:6, “Educate each child according to his own path.” This seems to be an endorsement of differentiated instruction! And so, we can assume that the normative philosopher of Jewish education must affirm a policy of differentiated instruction on the basis of this verse. But this is naive in at least three ways.

First, Jews (and others) have been reading and interpreting this verse for a long time, whereas the idea of differentiated instruction—and thus the interpretation of the verse in the preceding paragraph—is rather recent. Second, the tradition hardly ever speaks with one voice about an issue; when the focus is on a particular text, one short passage is being selected from a complicated tradition stretching over centuries. (In this case, note might be taken of a verse that is decidedly less popular in contemporary progressive circles, from Proverbs 13:24: “The one who spares his rod, hates his son.”) And third, not all texts look like Proverbs, with its pithy sayings that seem to be telling us what to do; the Jewish tradition includes narratives, legal material, poetry, commentary, philosophy,

mystical writings, and more—all of which make a claim to normativity (a claim that they *ought* to be taken as authoritative) in their own particular ways.

The conclusion to be drawn from these observations is that the (normative) encounter with the (normative) texts of a tradition always takes on the character of a dialogue. The texts have a voice, but the inquirer has a voice as well. In fact, this dialogic quality is explicit in much of the work of Michael Rosenak (1938–2013), the leading philosopher of Jewish education in the past generation. Rosenak seeks not merely to discern beliefs or ideas that are implicit in classical Jewish texts; rather, he often brings those texts into a purposeful dialogue with texts and ideas from general philosophy of education, all for the constructive purpose of providing guidance to contemporary Jewish educators.

Mode 4: Aims of Jewish Education

The preceding mode of Jewish educational philosophy moved from the descriptive to the normative. But, actually, the most basic normative stance is to pursue fundamental questions about the aims of Jewish education, whether it takes place in schools or summer camps, synagogues or universities. How can we articulate a principled view about what Jewish education is *for*?

There are a number of ways of taking up the question of the aims of education. But in recent years, this mode of Jewish educational philosophy has been identified with Seymour Fox (1929–2006) and his work promoting visions of Jewish education. The premise of this approach is that we can and should articulate the appropriate aims of Jewish education in terms of an image of the ideal educated Jew, that is, the ideal “product” of Jewish education. How does one construct such an image, such a vision? Not, interestingly, on the basis of conceptual or linguistic analysis, the kind of philosophical inquiry into the “educated man” pursued by R. S. Peters and others. Instead, Fox argues that such an image ought to be developed out of the sources of the Jewish tradition.

To demonstrate his idea, Fox called on a set of scholars of Jewish history and religion to construct the visions that he believed were necessary to revitalize Jewish educational practice. Four scholars formed the core of the project: Menachem Brinker, Moshe Greenberg, Michael Meyer, and Isidore Twersky. According to Fox, the visions that scholars such as these would produce would answer

the questions about the aims of Jewish education by painting a picture of the ideal product of Jewish education that emerged from certain aspects of the Jewish tradition (as understood by these scholars). Note that this normative project was also, at the same time, explicitly pluralistic; Fox embraced and celebrated the diversity of perspectives that the scholars represented.

The visions that the scholars produced are creative and insightful, providing much food for thought. What is notable, however, is that they lack systematic argumentation of the kind that Jewish educational philosophy ought to represent. Moreover, in drawing on sources within the Jewish tradition, they lack substantive engagement with other philosophical explorations of the topics that they raise (topics, e.g., autonomy, about which there is a voluminous literature). In these respects, the project fell short of the mark.

On the other hand, as an effort to raise the question of vision to a place of prominence on the intellectual landscape, it was a significant success. Others, including especially Daniel Pekarsky, have also contributed to the meta-inquiry about vision in Jewish education—that is, not only the conversation about what are the appropriate aims in Jewish education but also the conversation about what we mean by “vision” and how we go about constructing and defending our conceptions of purposes.

Mode 5: Exploring Problems of Jewish Educational Practice

In general, the rise and fall of analytic philosophy of education had little direct influence in Jewish education. But at its best, analytic philosophy of education emerges from practice and has the capacity to hold up a critical mirror to practice—to help the practitioner go beyond “reflective practice” to a deeper understanding of the educational choices that must be made on a daily basis. Analytic philosophy of education, that is, can help practitioners answer the question of why they do what they choose to do or whether they ought to be doing something else. (In other words, analytic philosophy of education is also normative, not merely descriptive.)

In this sense, Mode 5 of Jewish educational philosophy—the exploration of issues or problems that emerge from Jewish educational practice—can be understood to represent a continuation of the legacy of analytic philosophy of education within the particular context of Jewish education.

Consider the organization of the Jewish day school into two parallel sets of subjects: “Jewish” subjects on the one hand (study of classical Jewish texts, practices, and history, as well as Hebrew language and literature) and “general” or “secular” subjects on the other (math, science, history, English language, and literature). For many educators, the separation of the two realms is a problem. Some propose that students should have the experience of going back and forth, a class in science followed by a class in Jewish texts. Some propose that students ought to consider topics from multiple perspectives (“Jewish” and “Western”) or from multiple disciplines. For still others, what is important is the intentional forging of connections between classes wherever possible.

Each of these proposals rests on a set of assumptions—about the nature of subjects, about the nature of Judaism (is Judaism “non-Western,” or “nonsecular,” or “nongeneral”?), and especially about what ideas and attitudes ought to be cultivated in the students. Philosophical inquiry can play a role (and has played a role) in exploring these ideas, shedding light on these assumptions, and even recommending certain alternatives as more conceptually coherent and compelling.

This is just one example of a problem that emerges from Jewish educational practice. Consider that, if Jewish education is engaged in the interpretation of Jewish texts, this effort opens up a range of questions in hermeneutics. Or, more specifically, how might educators integrate the insights of the best contemporary critical scholarship on classical Jewish texts? Or if Jewish education is engaged in the promotion of commitments—commitments to a set of ideals, to an *ethnos*, or to a set of beliefs and practices—how might it simultaneously avoid indoctrination and promote autonomy?

These examples also point to two other important features of this fifth mode of Jewish educational philosophy. First, the philosophical study of problems of Jewish educational practice ought to engage parallel relevant inquiries elsewhere (in the first example above, the literature on curricular integration). And second, relatedly, this kind of philosophical inquiry frequently coexists comfortably with empirical educational research. Because the philosopher is focused on problems of practice, she benefits from understanding the nuances of the empirical educational realities (e.g., What actually happens when students study classical Jewish texts critically?). And conversely, the empirical researcher

relies on the development of theories of the practice in question. So the philosopher and the empirical researcher may pursue their inquiries with dramatically different methodologies—but participate in a shared conversation about practice.

A Challenge for the Field

Healthy, robust fields of inquiry are sustained by multiple people tackling common problems and questions. The conclusions that are reached by one inquirer are subjected to reexamination and critique, if not immediately then over time. But given the very small size of the field of Jewish educational philosophy, this rarely occurs. A challenge for the future of the field, then, is to develop a place for critical inquiry into the scholarship of colleagues—not to undermine one's colleagues but to build up a shared understanding. This would not entail a sixth mode of Jewish educational philosophy; rather, it would entail a deepening of inquiry within the modes that already exist.

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See also Character Development; Hermeneutics; Indian Religious and Philosophical Traditions and Education; Indoctrination; Muslim Educational Traditions; Peters, R. S.; Religious Education and Spirituality; Values Education

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JUSTICE AS FAIRNESS

See Rawls, John

K

KANT, IMMANUEL

Immanuel Kant (1724–1804) is recognized as one of the most influential figures in the history of Western philosophy: the paradigmatic philosopher of the European Enlightenment. It is important to view Kant’s work on education in light of his other work in order to understand a central topic, namely, his views on the philosophy of education—a daunting task even for the most dedicated Kantian scholar. This entry outlines some of the more valuable themes and discussions through this challenging and difficult territory, starting with an account of Kant’s views on the aims of education. It then briefly presents some ideas concerning efficacy and autonomy, virtue and duty, cosmopolitanism and the highest good, and the power of judgment, and it ends with some remarks on two kinds of critique against the work of Kant in philosophy of education.

Kant’s work made him famous, and he has had an enormous impact within and outside academia. The vast amount of interpretation, discussion, and criticism of his work continues to increase. Its influence is beyond doubt, and it continues to affect and challenge our ways of thinking.

Life and Work

Kant was born in Königsberg, East Prussia (now Kaliningrad in Russia), and lived there throughout his life. He attended the University of Königsberg from 1740 to 1746, enrolling as a student in theology,

but he was attracted to mathematics and physics. After university, he became a private tutor for local families for nine years until he was appointed an instructor at the university in Königsberg. He taught a variety of courses, including mathematics, anthropology, geography, the natural sciences, metaphysics, logic, and pedagogy. He was appointed professor of mathematics in 1770 and later of logic and metaphysics, a position that suited his interests.

When Kant was 57, he published the first version of his monumental *Critique of Pure Reason*, which changed the way philosophers and others thought about knowledge. Later on, he published works on ethics such as the *Groundwork of the Metaphysics of Morals*, the *Critique of Practical Reason*, and *The Metaphysics of Morals*. His third critique, the *Critique of the Power of Judgment*, dealt with ethics and aesthetics, and again, his work changed the way people thought about these topics. His other works include *Religion Within the Boundaries of Mere Reason* and *Anthropology From a Pragmatic Point of View*, written around the time of the *Metaphysics of Morals*. *Religion* concerned human beings’ propensity for evil, and *Anthropology*, a subject he taught for more than 23 years and a very popular course among students—attended even by his colleagues—expressed a lifelong interest in the study of human nature. Here, he expressed his views on cosmopolitan knowledge and the value and importance of educating students to become “citizens of the world”—a topic he returned to in his “Lectures on Pedagogy” (Kant, 2011b).

Works on Education

Kant published only a few texts directly concerned with education, namely, his *Essays Concerning the Philanthropinum*, and his “Doctrine of the Methods of Ethics” (Kant, 2006c, § 6, pp. 477–484). The “Lectures on Pedagogy” (Kant, 2011b, § 9, pp. 441–499) were edited by his former student Friedrich Theodor Rink and published late in Kant’s life. They are based on notes from Kant’s “Lectures on Pedagogy,” and it is unclear whether Kant himself shared the editing. Other texts of relevance for education are Kant’s *Announcements of the Programme of His Lectures for the Winter Semester 1765–1766* and his “Doctrine of the Method of Pure Practical Reason” (Kant, 2007, § 5, pp. 151–163).

Aims of Education

The final destiny of the human race is moral perfection, so far as it is accomplished through human freedom, whereby man, in that case, is capable of the greatest happiness. . . . How, then, are we to seek this perfection, and from whence is it to be hoped for? From nowhere else but education. (Kant, 2001, § 27, pp. 470–471)

This quotation indicates the overall aim of education for Kant: It should cultivate not merely the technical and pragmatic disposition of humans, the disposition to use objects and others for fulfilling specific ends, but also our moral disposition, our moral character for the pursuit of the highest good. Kant’s reason for this is that

the human being should not merely be skilled for all sorts of ends, but should also acquire the disposition to choose nothing but good ends. Good ends are those which are necessarily approved by everyone and which can be the simultaneous ends of everyone. (Kant, 2011b, § 9, p. 450)

This aim points to the cultivation of humans as autonomous beings capable of pursuing both personal and general happiness. Such an education must necessarily be designed in a cosmopolitan manner (see Kant, 2011b, § 9, p. 448), because it aims not at the fulfillment of specific interests either by parents or states, nor at the interests of specific groups of any kind but at “the best for the world and the perfection to which humanity is destined” (Kant, 2011b, § 9, p. 448)—the highest good. No single individual can achieve or pursue this on his or her own; it can only be pursued by the human species as such. The aim, then, is to civilize children

and young people, to cultivate their skills for the fulfillment of specific interests in specific societies, and also to form their moral character. Kant (2006a) says that such an

achievement is difficult because one cannot expect to reach the goal by the free agreement of *individuals*, but only by a progressive organization of citizens of the earth into and toward the species as a system that is cosmopolitically united. (p. 333)

This central task of education—the formation of moral character—can, according to Kant (2006c), be accomplished only through a steadfast commitment to virtue. The task is realized through a resolute conduct of thought, through cultivation of the use of reason in practice. By this is meant humans’ understanding, imagination, and capacity to distance themselves from their inclinations and act for the sake of some specific end, to reflect on their inclinations as reasons for their actions, and possibly also to challenge and modify these reasons as needed.

From here, Kant (2011b) writes that education becomes the most important challenge for human beings:

The human being shall make himself better, cultivate himself, and if he is evil, bring forth morality in himself. If one thinks this over carefully, one finds that it is very difficult. That is why education is the greatest and most difficult problem that can be given to the human being. (§ 9, p. 446)

Education should cultivate children’s and young people’s technical and pragmatic disposition, enable them to think for themselves, and optimize their freedom to set and pursue their morally permissible ends. Moreover, the formation of moral character is ultimately the outcome of free choice. Kant (2006c) writes,

So too, it is a contradiction for me to make another’s *perfection* my end and consider myself under obligation to promote this. For the *perfection* of another human being, as a person, consists just in this: that he *himself* is able to set his end in accordance with his own concepts of duty; and it is self-contradictory to require that I do (make it my duty to do) something that only the other himself can do. (§ 6, p. 386)

This, does not, however, suggest that the cultivation of the other’s moral character should be avoided. On the contrary, Kant thinks it is a duty for us to

promote others' happiness, whose morally permitted end we also have to make our own. And since the formation of moral character is a morally permissible end, we should freely choose to cultivate it and enable each other to do so in education and elsewhere, which is hard work.

Efficacy and Autonomy

Since, then, the ultimate aim of education is the formation of character, people must render themselves both efficacious and autonomous as human beings. This involves acting in agreement with and being motivated by the hypothetical and the categorical imperative (see Kant, 2011a). The *hypothetical* imperative says that you constitute yourself as efficacious when you take the means to your end and act so that you achieve it. This capacity is also a distinctive feature of human beings (Kant, 2006c, § 6, pp. 391–392). The *categorical* imperative basically says that you render yourself autonomous not merely when you determine yourself to be the cause of your action but also when you conceive yourself as an agent with the capacity to acknowledge the ends you set, reflect on them, and possibly also challenge and change them as reasons for your action. It also suggests that you confer value on yourself as a rational creature with the capacity to distance yourself from the ends you set and value, reflect on them and decide whether you should act to fulfill, satisfy, or achieve any of them, and possibly also challenge and change them as ends worthy to achieve, and not merely as the external ends you set or have had set for you.

Kant (2011a) argues that there are two kinds of end: conditional and unconditional. The former is valued as useful for the sake of something else, and the latter kind of end is not valued because of “what it effects or accomplishes” (§ 4, p. 394) but

only because of its volition, that is, it is good in itself and, regarded for itself, is to be valued incomparably higher than all that could merely be brought about by it in favour of some inclination and indeed, if you will, of the sum of all inclinations. (§ 4, p. 394)

It is the good will. Kant (2011a) famously argued in the *Groundwork of the Metaphysics of Morals* that “it is impossible to think of anything at all in the world, or indeed even beyond it, that could be considered good without limitation except a *good will*” (§ 4, p. 393). This suggests that we value our external ends because we consider ourselves important in our rational power to choose and act to achieve our

ends, and in our capacity to challenge and change our ends as reasons for our action.

Valuing humanity is, therefore, the condition for valuing anything else. Kant (2011a) argued in the *Groundwork of the Metaphysics of Morals* that, as a rational being, you should act so that you relate to “humanity, whether in your own person or in the person of any other, always at the same time as an end, never merely as a means” (§ 4, p. 429). Valuing humanity also constrains your action, and is something those concerned in education should learn over time and respect; valuing humanity also suggests that people should learn to regulate the domination of their and others' inclinations and have the moral law as the determining ground of their will. Kant (2011b) says, for example, in his “Lectures on Pedagogy” (§ 9, p. 441) that “discipline or training changes animal nature into human nature . . . [and that] the human being must be accustomed early to subject himself to the precepts of reason” (§ 9, p. 442). This is because training and discipline, for Kant, are “merely negative” (§ 9, p. 442).

Cultivating our humanity means that we should preserve everyone's freedom not merely to set their own external ends but also to promote “the fulfillment of the morally permissible ends of all” (Guyer, 2000, p. 386). This in turn suggests that the young should cultivate their duty, their respect for the moral law and virtue, and their moral strength to comply with the moral law in education and elsewhere.

Virtue and Duty

Kant maintains that we cannot abolish our desires or inclinations, nor can we avoid being affected by practices, customs, or habits. What we can do, however, is regulate the inclinations, and challenge and change the practices, customs, and habits, when we comply with the moral law and have it motivate our will. Kant (2011a) argues that we maintain our freedom when we comply with the moral law and do not become the mere plaything of forces seemingly outside our control. In other words, we cultivate our autonomy—“the property of the will by which it is a law to itself (independently of any other property of the objects of volition)” (§ 4, p. 440)—when we act from duty and strengthen our will to comply with the moral law (the categorical imperative). Duty refers here to Kant's idea that we respect the humanity in others and ourselves as rationally self-governing creatures as ends in ourselves and not merely as a means to some further end. Duty also refers to self-constraint—that is, we develop our

virtue, the moral strength of our will so that we may overcome resistance by our or others' inclinations. And virtue can only be cultivated through practice, not through, for example, contemplation. It is something we acquire when we set and pursue our morally permissible ends—that is, when we render ourselves efficacious and autonomous in practice.

Kant (2006c), in his *Metaphysics of Morals*, distinguishes between duties to ourselves and duties to others, arguing that we could cultivate the strength of our will by acknowledging our duties in practice. The duties we have to others and ourselves are either perfect or imperfect: they are *perfect* when they are forbidden, negative, or limiting and prescribe exactly what one cannot do either to oneself or any other; and they are *imperfect* when they leave “a playroom (*latitudo*) for free choice in following (complying with) the law, that is, that the law cannot specify precisely in what way one is to act and how much one is to do by the action” (§ 6, p. 390). Examples of imperfect duties to oneself are the duty to cultivate one's talents and to seek moral perfection. Examples of imperfect duties to others are the duty to promote the happiness of the other and the duty to love the other. These duties should guide us when we set our ends in life, and since they are imperfect duties, they leave a great deal of latitude in deciding what action to perform to achieve such ends. They also require that we cultivate our judgment when doing so.

This suggests that children and young people as well as others should not merely promote everyone's morally permissible ends but also cultivate their judgment regarding how to accomplish this. It also suggests that people should not pursue their personal ends, which are determined by their desires or personal interests, but seek the happiness of all. That is, they should not pursue ends that limit or destroy anyone's freedom of choice; they should instead learn to promote and pursue the morally permissible ends of all,

and because happiness just consists in the fulfillment of ends, it follows . . . that at least under ideal circumstances maximal compliance with the fundamental principle of morality [the moral law] would itself result in maximally permissible human happiness. (Guyer, 2000, p. 386–387)

That is the highest good.

Cosmopolitanism and the Highest Good

The highest good cannot, then, be something that individuals achieve, or something that the species can

achieve or make progress toward achieving. It can only be brought about by their rational capacity—that is, their humanity as an end in itself, and as a freely chosen end of their action in various social, cultural, and political settings. This is why education, for Kant (2011b), is not merely one of the most difficult challenges for human beings, it also is the means whereby they can make themselves. He writes, “The human being can only become human through education. He is nothing except what education makes out of him” (§ 9, p. 444). This suggests that “education is an art, the practice of which must be perfected over the course of many generations” (§ 9, p. 446). Furthermore,

Children should be educated not only with regard to the present but rather for a better condition of the human species that might be possible in the future; that is, in a manner appropriate to the idea of humanity and its complete vocation. (§ 9, p. 447)

Kant (2011b) continues,

This principle is of great importance. Parents [and I would add—states] usually educate their children merely so that they fit in with the present world, however corrupt it may be. However, they ought to educate them better, so that a future, better condition may thereby be brought forth. (§ 9, p. 447)

Such a progressive orientation—toward the highest good—can be accomplished only through voluntarily formed ethical communities (realm of ends)—that is, systematic unions of “rational beings through common laws” (Kant, 2011a, § 4, p. 433), which the citizens make themselves (see Kant, 2011a, § 4, pp. 433–463, for a discussion on the notion of realm of ends). In the words of Allen W. Wood (2011), these cannot be “subject to any sort of limitation as to its extent, as by restricting it to people who live in a certain geographical area or belong to a specific race or heredity” (p. 131), nor the mere cultivation of the technical and pragmatic disposition. A progressive orientation suggests instead, says Wood, that we as human beings “pursue in common a set of ends that are systematically united into a ‘cosmopolitical combination’ or ‘realm,’ that is, an organic unity” (p. 133)—that is, we pursue ethical communities in education and society at large in which we as human beings value our humanity (the content of which respects the free use of reason of each citizen) and comply with the principles of practical reason and in which we cultivate the power of our judgment.

The Power of Judgment

For Kant, it is important that children and young people (as well as adults) learn to use their reason actively—that is, to think for themselves in the pursuit of the highest good. This suggests that rather than merely learning or acquiring knowledge passively, they should *actively* acquire knowledge through their critical use of reason. It further suggests that they should not embrace any specific values or norms of action without also respecting the humanity in themselves and in others. Moreover, the young should not merely be disciplined, civilized, and cultivated through education but also be enabled to freely choose to cultivate their power of judgment in education and elsewhere—that is, to comply with the suggested principles of practical reason and cultivating also their imaginative capacity—in particular, the free play of imagination and understanding. Kant (2011b) says, “The art of education or pedagogy must . . . become judicious if it is to develop human nature so that the latter can reach its vocation” (§ 9, p. 447). Kant suggested that the cultivation of the power of judgment could be enabled through catechistic moral education as well as through aesthetic education.

Engaging in catechistic moral education enables students to use their reason freely, actively, and critically to acquire or construct knowledge rather than merely memorizing questions and answers. This they can do through, for example, examples in education, taken from literature, plays, and stories. An example is, however, “not for copying, though it is certainly for emulation.” Kant continues,

The ground of the action must be derived, not from the example, but from the rule; yet if others have shown that such an act is possible, we must emulate their example and also exert ourselves to perform such moral actions, and not let others surpass us in that respect. (Collins, in Kant, 2001, § 27, p. 334)

And for Robert B. Loudon (2011),

A sharp and vivid example brings the moral point home for human beings in a way that the abstractions of theories, principles, and rules often cannot. [And he continues:] . . . the example itself does not ground or justify the principle—quite the contrary. Rather, the right kind of example helps human beings to see what is at stake in the principle. Examples help to make the moral law visible to human beings. (p. 93)

The power of judgment, and in particular the free play of imagination and understanding, cannot however be enabled merely through catechistic moral education—by thinking, for example, about moral examples. One must also use one’s imagination in aesthetic education—that is, use reflective judgment and not merely determinate judgment. The former is defined as the judgment with which we *seek* concepts and judgments relating to the particular, and the latter is defined as the capacity to *apply* given concepts and judgments to the particular (see Kant, 2006b, § 5, pp. 179–180). Reflective judgments do not follow any particular rule, nor can they be constrained by any rule: They express the free play of the imagination and understanding and are based on the feeling of pleasure. They are also an expression of human autonomy. Genius, in particular artistic genius, lies precisely in, *inter alia*, the transcendence of any particular use of given concepts and judgments, in the free play of imagination and understanding, and in the pleasure of imagining things differently.

Kant believed that he had demonstrated here the power of our judgment. This was not merely because he thought that he had demonstrated the human capacity to grasp the moral law and, thus, to regulate our inclinations by complying with the principles of practical reason and render ourselves efficacious and autonomous but also because he thought that he had established our capacity to experience beauty as a symbol of morality and, in particular, our autonomy and, thus, that our moral character can be enabled in moral and aesthetic education—a challenging task even for generations to come.

Critique

Kant’s work and its implications for education have not gone unnoticed in philosophy and in the philosophy of education. An increasing number of publications in, for example, philosophy discuss his work in relation to educational issues. Philosophers of education also have discussed his work—and criticized it; two kinds of critique are discussed here. The first concerns Kant’s supposed focus on the individual and his alleged lack of concern for the impact and value of social relations. Nel Noddings, for example, asserts that in “Kant’s ethic, the individual—as the general mechanism of practical reasoning became central, but the individual—as the actual, embodied person—became irrelevant” (Noddings, 1995, p. 161; see also Biesta, 2006; Vanderstraeten & Biesta, 2001).

This critique is, however, misguided, as seen from the discussion above; Kant was indeed concerned about the character of the embodied person and social relations (see Shell, 1996, for a discussion on Kant's views on the embodiment of reason, and Wood, 2011, on Kant's views on the character of social relations).

The second kind of critique is directed toward what is considered Kant's lack of a theory of virtue and his lack of concern for love and care (see, e.g., Noddings, 2002). Here, it may be helpful to quote Martha C. Nussbaum (1999) on "a misleading story," which affects, *inter alia*, the work of Kant:

Here is a misleading story about the current situation in contemporary moral philosophy: We are turning from an ethics based on Enlightenment ideals of universality to an ethics based on tradition and particularity; from an ethics based on principle to an ethics based on virtue; from an ethics dedicated to the elaboration of systematic theories to an ethics suspicious of theory and respectful of the wisdom embodied in local practices; from an ethics based on the individual to an ethics based on affiliation and care; from an ahistorical detached ethics to an ethics rooted in the particularity of historical communities. (pp. 163–164)

Nussbaum shows, in the same article, that this story affects Kant's work—and that Kant *is* concerned with virtue. We have also seen that Kant discussed the value and importance of cultivating virtue for human beings to comply with his suggested principles (see Kant, 2006c, for a lengthy discussion on virtue; and Roth, 2011, 2012, on the function and status of principles and the value of educating character when striving for the highest good together). Moreover, we also see from the discussion above that Kant emphasized the value and importance of enabling human beings to cultivate their virtue so that they can pursue the highest good *together* in various social, cultural, and political settings—and that this requires that their freedom to render themselves efficacious and autonomous, and to cultivate their sense of beauty and genius, be optimized. For Kant, however, no individual can achieve this alone, or independently, of the circumstances: It can only be pursued together and in relation to these and is, as seen, hard work.

Klas Roth

See also Autonomy; Education, Transcendental Justification of; Hegel, Georg Wilhelm Friedrich;

Noddings, Nel; Rationality and Its Cultivation; Virtue Ethics

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KEY, ELLEN

See Century of the Child, The: Ellen Key

KNOWLEDGE, ANALYSIS OF

Philosophers since Plato have produced analyses of knowledge, describing what it means to say that someone knows something. Because gaining knowledge is a core goal of education, understanding what “knowledge” means is key for thinking about teaching and learning. This entry describes the analysis of knowledge that has been at the center of philosophical discussions and sketches ways in which this analysis remains difficult to formulate precisely yet still is useful for thinking about teaching and learning.

The type of knowledge at issue here is knowledge of propositions, such as knowing that the earth revolves around the sun. The analysis is not applicable to knowledge by acquaintance, where saying “Ralph knows Fred” means that the two have met. The analysis presented here is also not directly

applicable to having a skill, such as knowing how to play the guitar.

Knowledge as Justified True Belief

An intuitively plausible analysis of what it means to say that someone knows something (a proposition) specifies three conditions that must be met: (1) the person must believe the proposition, (2) the proposition must be true, and (3) the person must be justified in believing the proposition (i.e., he or she must believe it for good reasons). Saying that a person knows something implies that these three conditions are met. The analysis also asserts the converse, that meeting the three conditions implies that the person knows the proposition.

This is referred to as the justified true belief (JTB) analysis of propositional knowledge. The rationale for the belief and truth condition seems obvious. It would be contradictory to say both that Jeff *knows* that the earth revolves around the sun and that Jeff does not believe that the earth revolves around sun. Similarly, it would be contradictory to say both that Jeff *knows* the earth revolves around the sun and that it is *not true* that the earth revolves around the sun.

The appeal of the third condition—justification—can be seen by considering some education examples. If a high school student says he is sure (belief) that all squares are rectangles (true proposition) but struggles to give an adequate reason for this belief (“I can’t remember seeing a square that wasn’t a rectangle,” “I think they might be just two names for the same thing,” . . .), we wouldn’t say that he knows this. He happens to believe it, and it’s true, but because he doesn’t have a good reason for believing it, he doesn’t really know. He’s just making a lucky guess. To know it, he would need to gain good reasons for believing it.

Gettier’s Critique and Responses

Philosophers have identified problems with the JTB analysis that center on the justification condition. In a brief article, Edmund Gettier generated examples to show that some justified true beliefs do not match the intuitions we have for what should be called knowledge. In the cases he poses, as in many other cases philosophers have devised and discussed in the subsequent decades, the problem comes about because the justification does not function to support the true belief. Instead, the justification contains a fatal flaw, and the truth of the proposition arises instead from some lucky accident, a case of “epistemic luck.”

Consider an example drawn from a *Mission Impossible* movie. A Russian guard is sitting at the end of a long hallway. He looks up periodically and sees no one in the hallway. Hearing a noise, he briefly leaves his post. While he is gone, two American agents push in to place a screen, onto which they project an image of the empty hall; the screen is located midway up the hall; but the image is so perfect that the image the guard sees perfectly matches the empty hall he saw before. With the screen in place, enemy agents go up the hallway and enter a side room, for a time leaving the hallway empty of people. Now, when the guard looks up, he *believes* that the hallway is empty of people. And it is. He has a true belief. He also has a justification for believing the hallway to be empty, namely, that what he sees looks like an empty hallway, and he has no reason to doubt his usual interpretation of what he sees. But our intuition is that he does not *know* that the hallway is empty, because what he is actually seeing is just a projection; he can't actually see what is or isn't present beyond the screen. So the guard has a justified true belief but not knowledge.

This example, and others that can be similarly constructed, show that the JTB analysis does not quite capture what we mean by "knowledge." The examples are cases where all three conditions are met, but we would not say that the person *knows* the proposition.

Philosophers have tried a variety of approaches to address Gettier's examples and others like them. Some approaches suggest that an additional condition should be added to rule out the cases where the proposition is true by a lucky accident. For example, the fourth condition might be that in addition to being justified in the belief, the person is also justified in ruling out all "relevant alternatives" to the belief. In the example above, this would mean that the guard would need to be justified in ruling out all "relevant alternative" beliefs about the hallway. The problem with this approach is its vagueness about what constitutes a "relevant alternative." Should the existence of a projected image be considered such an alternative?

Other approaches to address the Gettier examples have tried to strengthen or revise the justification condition itself. Rather than requiring that the person be "justified" in the belief, the third condition might be that the belief arises from a reliable cognitive process or that the belief must be caused by the fact stated in the proposition. The first approach is a more precise statement of what "justified"

means; the second specifies a substantive connection between the belief and the proposition.

The so-called virtue-theoretic approach also introduces a substantive link between reason for a belief and its truth. Ernest Sosa's description of this approach names three characteristics of beliefs: accuracy, adroitness, and aptness. *Accuracy* is equivalent to truth. *Adroitness* refers to a belief arising from a process that is likely to lead to adoption of true beliefs, though it may sometimes go awry. Beliefs produced by reliable cognitive processes would be adroit. Sosa connects *aptness* to knowledge by tying accuracy and adroitness together: A belief is apt if and only if it is accurate *because* it is adroit. Knowledge is apt belief—that is, a belief that is held because it is true in a way and tied to the process generating the belief.

All these attempts handle some examples, deciding whether a belief counts as knowledge in a way that corresponds to most people's intuitions. But for every such solution, philosophers have been creative in generating new examples where the analysis does not accord with what seems appropriate to say or where the proposed analysis remains unacceptably vague about how to decide. The key problem remains the difficulty in specifying a substantive link between the truth of the proposition and the person's reasons for believing it.

Adapting the Justification Requirement to the Level of the Child

Despite these continuing difficulties in getting the analysis of knowledge precisely right, the intuition that knowledge requires belief, truth, and appropriate justification remains a key principle in thinking about the goals of education. That is, for the realm of propositional knowledge, educators want students to acquire justified, true beliefs. All three components are desired.

For discussions about teaching and learning, the difficult questions about Gettier examples are not the focus of questions about justification. Educational discussions about what justifications are adequate center on judgments about what types of justification can be expected for students at different ages and at different points in their studies. In deciding whether one knows that heating water will change it from a liquid to a gas, a simpler justification would be expected from a second-grade student than from a college chemistry major. If the second grader said that she knew this because she has seen steam rise

from a pot heating on the stove, the teacher might say this was good enough. But if the college student offered that as the only justification, the professor might not say that this counted as knowledge.

In a book addressing goals of education, the psychologist Jerome Bruner stated the hypothesis that children at any age and level could come to learn about any topic. He was able to make this bold claim by acknowledging that the form of knowledge would be appropriate to the level of the child. This hypothesis signaled that the justification a student must possess before we say that the student knows the content will vary across children and stages of development. The JTB analysis of knowledge highlights the necessity for justification as a component of knowledge, but it leaves open the specifics of what will count as adequate justification. Philosophers' struggles with Gettier examples reinforce the point that not any justification will do. Philosophers' counterexamples present abnormal, sometimes bizarre, situations to make their point. Those examples are unlikely to arise in classroom settings. But they serve as a reminder that not all justifications support knowledge; as educators decide what students should know and how to assess their knowledge, they must attend carefully to the reasons students have for beliefs, as well as to whether their beliefs are accurate.

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See also Epistemologies, Teacher and Student;
Knowledge, Structure of: From Aristotle to Bruner
and Hirst; Teaching, Concept and Models of

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KNOWLEDGE, STRUCTURE OF: FROM ARISTOTLE TO BRUNER AND HIRST

Discussions of the structure of knowledge have a long history, extending from antiquity to the present. However, it is dangerous for educational theorists, researchers, policymakers, and practitioners to act as if now the structure of knowledge is settled; doing so promotes false simplicity and limited perspective. If the structure of knowledge is about an intellectually rich historical conversation that makes us increasingly civilized beings, as Michael Oakeshott declares in *Rationalism in Politics* (1962), it is no mean feat to enter that conversation with the intellectual and moral fortitude it merits. Taking a cue from John Dewey's *The Quest for Certainty* (1929), cautious uncertainty may be the best way to address the structure-of-knowledge conversation.

Often construed by philosophers as an epistemological problem, the structure of knowledge invokes multiple ways of knowing such as experimentation, empiricism, revelation, authority, rationality, intuition, meditation, and embodied knowing. Western epistemological history can be traced to ancient Greeks. A mentor–student genealogy extends from Socrates, to Plato, to Aristotle, and to Alexander the Great. Socrates (469–399 BCE) exemplifies dialogic structuring of knowledge as he interacted with protagonists in contextualized encounters in search of truth, goodness, beauty, and virtue. Plato (429–348 BCE), the idealist author of Socratic dialogues of his mentor, articulated in *The Republic* and other dialogues a structure of knowledge in a formal realm of ideas beyond the senses—this realm of the “forms” is the only reality, and what is commonly regarded as knowledge of the world around us (the world that we experience via our senses) is not knowledge at all.

Systematization of Knowledge in the Western Tradition

Aristotle (384–322 BCE), Plato's student and paragon of realism, is considered the greatest systematizer of knowledge. His *Organon* delineates several areas; the first is logic, particularly variations on the syllogism. A second group of treatises includes sciences such as biology and physics. In metaphysics, a third group, he rejected Plato's separate realm of

forms. Rather, Aristotle held to a universe of matter and form as empirically verifiable, building science on sensory experience. Aristotle's fourth group deals with practical philosophy, literature, and conduct, expressed in his *Nicomachean Ethics*. The *Politics*, his fifth group, focuses on government, and the sixth group, the *Poetics*, is a lauded, though fragmentary, treatment of literary criticism. These categories constitute the basis of knowledge structures for education. The life of Aristotle's most noted student, Alexander the Great (356–323 BCE), illustrates that knowledge should be structured in subservience to action in leadership, conquest, and battle.

The Western tradition continued to build on the knowledge structures of Plato and Aristotle, as well as in the tradition followed in the Roman Empire, such as in the educational perspectives of Cicero (106–43 BCE), Quintilian (35–100 CE), and others who developed curriculum and pedagogy to train citizens in rhetoric and oration. The *trivium* (grammar, rhetoric, and dialectic) and *quadrivium* (arithmetic, geometry, astronomy, and music) constitute the Seven Liberal Arts that emerged from these traditions to travel across the centuries. These foundational structures were augmented by St. Augustine (354–430), who coupled Plato with Christian principles, and later by St. Thomas Aquinas (1225–1274), who integrated them with both Aristotle and Christian theology. Myriad Christian theologians created variations throughout the Middle Ages, embedding the spiritual with structures of knowledge.

Western explorations and invasions from Alexander to Constantine, through the Crusades and Renaissance, met Middle Eastern philosophers and theorists such as Baba Bathra (ca. 21 CE), Maimonides (1135–1204), Gluckel Von Hameln (1644–1724), and Moses Hayyim Luzzatto (1707–1747) of the Judaic tradition; and Muhammad (570–632 CE), Al-Ghazali (1058–1111), and Ibn Khaldoun (1332–1406) of the Islamic heritage. Thus, Western theorists were faced with diversity that challenged many preconceptions about the structure of knowledge inherited from Plato and Aristotle. Nevertheless, in Western Europe, there emerged what the educational historian Robert Ulich (1890–1977) called the Humanist Evolution. In this pedagogical dimension of the Renaissance, scholars such as Arena Silvio (1405–1464), Desiderius Erasmus (1466–1536), Ignatius Loyola (1491–1556), Martin Luther (1483–1546), and Michel de Montaigne (1533–1592) re-invoked the

ancient Greek and Roman scholars. Besides punctuating their work with citations from antiquity, scholars began to break that mold by departing from medieval religious education and emphasizing vernacular languages, glory, social success, beauty, and intuition. Situating knowledge within action and emotion, they raised questions that point toward less structured knowledge.

A new kind of structure emerged with the rise of experimental science in the works of Francis Bacon (1561–1626), René Descartes (1596–1650), and Galileo Galilei (1564–1642). New and old structures were organized by Jesuits under Ignatius Loyola's rigorous leadership. Disciplinary structures were deepened by modernist educators through Johann Amos Comenius's (1592–1670) depiction in *The Great Didactic* and *Orbis Pictus*. Structures of knowledge that followed, as illustrated by William Petty (1632–1687), John Locke (1632–1704), Benjamin Franklin (1706–1790), and John Stuart Mill (1906–1873), sought utilitarian ends.

Structures of Knowledge in Modernity

Focus on the learner as a center of curricular structure can be traced in key educational classics by Jean-Jacques Rousseau (1712–1778), Johann Heinrich Pestalozzi (1746–1827), Johann Herbart (1776–1841), Friedrich Froebel (1782–1852), and Francis Parker (1837–1902). Natural tendencies in the child were seen as embryonic knowledge structures, illustrated by Herbart's doctrine of *apperceptive mass*, or accumulated experiential knowledge that seeks organization. This tendency can be seen as a precursor to Dewey's (1859–1952) advocacy of learners continuously restructuring knowledge by moving on a continuum between the *logical* (extant disciplines) and the *psychological* (interests and concerns of learners) in his *Child and the Curriculum* (1902) and *Democracy and Education* (1916). Transcendentalists such as Ralph Waldo Emerson (1803–1882) and Henry David Thoreau (1817–1862) also influenced Dewey. Their confidence in the inherent goodness of humans and nature and their ardent faith in independence and self-realization brought a tendency to question and transcend extant structures, including predetermined structures of knowledge. Dewey added social and political structure to knowledge immersed in participatory democracy.

Transcendentalists, especially Thoreau, called attention to the Far East and thus awakened a

repertoire of perspectives on non-Western structures of knowledge, too often neglected in structure-of-knowledge discussions. In China, knowledge structures can be seen as an intuitive grasp of nature through Taoist roots in Lao-Tse (6th century BCE) and in later poets in the Tang Dynasty, such as Li Bai (Li Po) and Tu Fu, or to exemplars in Confucius's (551–479 BCE) image of concentric communities (individual, family, town, state, world, universe) in search of diversity in unity and unity in diversity. In the Hindu traditions or those built on teachings of Gautama Buddha (b. ca. 560 BCE) in India, one sees knowledge structured as progressions to being at one with a world spirit. Buddhist structures of knowledge are integrated in an evolving path to mindfulness amid the flux of life. Alternative forms of knowledge in other parts of the non-Western world offer more challenges to Western structures of knowledge. For instance, Molefi Kete Asante's discussions of knowledge traditions of sub-Saharan Africa in his *Afrocentricity* (1991) illustrate a billowing image of structure that merges with function or process. This is well depicted in a story of East African heritage retold by Jack Kornfield in a 1993 book called *A Path With Heart*, in which a tribe developed a song for each newborn baby to be sung at birth, special occasions, marriage, and ultimately death. Here is an embodiment of knowledge of self and other that differs starkly from Western structures and that was often demolished by colonizers—and is now sometimes revived in postcolonial contexts. Similarly, in Latin America, the scholar-activist Jose Martí's (1853–1895) stories, poems, and songs or Carlos Fuentes's (1928–2012) notion of a dream world with at least 50 ghosts behind every human being exemplifies orientations to knowledge that connect with the multiple selves of Mikhail Bakhtin (1895–1975) or correspond to magical realism wherein humans can morph back and forth into animals and other living things. This foray into alternatives illustrates serendipitous visions of knowledge almost like a flowing liquid portrayed in the Peruvian anthropologist Carlos Castaneda's (1925–1998) writings about the Yaqui way of life. During the second half of the 20th century, Paulo Freire (1921–1997) advocated in *Pedagogy of the Oppressed* (1970) a problem-posing pedagogy rather than the dominant oppressive “banking” education, finding knowledge structured in the people's experience and praxis.

What appears to Westerners as magical and mysterious beliefs and practices might be built on forgotten knowledge structures. Nonetheless,

attempts to understand knowledge structures must seek diverse perspectives lest they be narrow and prejudicial. Globally cosmopolitan Westerners, however, see with broad perspective even within the contours of their own traditional vantage point. By putting realms of philosophy other than epistemology in bold relief, philosophers could question dominant structures of knowledge: What shape would knowledge take if the view was metaphysical, focusing on the nature of reality, or if the focus was as an ontological problem about being, an aesthetic problem about beauty or pattern, an ethical issue of good and evil, an axiological question about what is valuable, a political problem of how humans live together, or a theological problem about the nature of the deity? One can reflect on ways Martha Nussbaum's highly acclaimed *Love's Knowledge* (1990) pushes readers to ponder the reciprocal value of literature and philosophy that leads to interdisciplinary perspectives as a basis for ethical conduct. Such a stance is reminiscent of the earlier and highly germinal *Bildungsroman* novels by Johann Von Goethe (1749–1842), such as *Wilhelm Meister's Apprenticeship* (1796), and works focusing on the complex maturation of human character by later authors from Charlotte Brontë and Charles Dickens to Hermann Hesse, Ralph Ellison, and Toni Morrison. Drawing on existential perspectives from philosophy and literary imagination, Maxine Greene has advocated passion for pluralism in education.

Curriculum Theory and the Structure of Knowledge

Toward such ends and directly from the sciences, Michael Polanyi (1891–1976) has characterized the personal nature of knowledge and its tacit dimensions. In striving to educate whole human beings, Dewey argued in *The Way Out of Educational Confusion* (1931) that the arbitrary and artificial organization of knowledge into disciplinary categories was a great source of confusion when applied to education because it does not capture the complexity of transactions between knowledge and learners. While Dewey asserted that disciplinary structure was fine for encyclopedias, he emphasized that interests and experiences of learners must be integrated with structure of knowledge and adjusted to the educational situation. Dewey's notion of structures as artificial is surprisingly similar to postmodern critiques by Michel Foucault (1926–1984) whose work focused on an archaeology of knowledge and

later on genealogies of knowledge. It fuses the emotional, social, and political as integral to structures of knowledge.

Since the beginning of the 20th century, practical instantiation of structures of knowledge can be seen in curriculum. The curriculum field is a contested ground among several orientations: intellectual traditionalists, social behaviorists, experientialists, critical reconstructionists, and postmodernists. Intellectual traditionalists advance structures of knowledge from the liberal arts and sciences through work by Charles Bagley, Robert M. Hutchins, Alexander Meiklejohn, Mortimer Adler, and others. They argue that life is enhanced by consideration of the great ideas derived from the disciplines of knowledge. Social behaviorists often combined empirical orientations, social efficiency, and analytic orientations in work by Franklin Bobbitt, W. W. Charters, Ralph Tyler, and others. Bobbitt, for instance, wanted curriculum structures to be derived from empirical study of the activities of successful adults rather than from the disciplines. John Dewey, William H. Kilpatrick, L. Thomas Hopkins, and others are often associated with experientialist perspectives wherein knowledge is structured from the interests and needs of learners. Some connect this with the developmental stages in Jean Piaget's (1896–1980) research, or with *scaffolding* based on Lev Vygotsky's (1896–1934) notion of a *zone of proximal development*—and they call the agglomeration of perspectives of Dewey, Piaget, Vygotsky, and others as the roots of *constructivism*. A different experientialist tack is taken by Max van Manen, who calls for phenomenological hermeneutics that focuses on lived experience before knowledge is theorized.

Critical reconstructionists, whose work derives from that of Karl Marx (1811–1883) and Antonio Gramsci (1891–1937), as well as from Jürgen Habermas (1929–) and others (e.g., George Counts, Carter G. Woodson, Harold Rugg, Paulo Freire, Paul Willis, Michael F. D. Young, Michael Apple, Henry Giroux, Jean Anyon, and William Watkins) influenced by the Frankfurt school, offer curriculum theory that holds knowledge to be structured by pervasive political and ideological structures of society. They assert that knowledge is reproduced prejudicially according to socioeconomic class, race, ethnicity, gender, ability, health, place, belief, age, appearance, membership, language, nationality, sexuality, and other factors. Regarding gender, the construction of knowledge is differently and

poignantly posed by feminist scholars such as Janet Miller, Madeleine Grumet, and Patti Lather, and womanist scholars and writers such as Alice Walker, Toni Morrison, Annette Henry, Patricia Collins, bell hooks, and Sabrina Ross. Recently, too, queer theorists such as Deborah Britzman, Janet Miller, James T. Sears, William Pinar, Erica Meiners, and Therese Quinn have expanded conversation on this complex topic. Postmodernists in curriculum studies (e.g., William Doll, William Pinar, and Patrick Slattery) eschew master narratives and advocate complicated conversations among multiple narratives of all involved in any educational situation. This, of course, runs the risk of being a master narrative itself that says there are absolutely no master narratives.

In policy and practice, structures of knowledge became a highly contested issue during the post-Sputnik curriculum reform efforts championed by the cognitive psychologist Jerome Bruner, who argued in his *The Process of Education* (1960) that students at early ages should be exposed to educational activities that enable them to internalize structures of the disciplines so that they have an intuitive imaginative grasp of these disciplines, which in essence is the same as that possessed by scientists, mathematicians, artists, musicians, and social scientists. (Understanding the logical structure of a discipline allows the learner, as well as the expert, to assimilate the changes or developments that inevitably occur in that field over time.) This work led to much debate in the 1960s and 1970s about whether all disciplines and areas of study possessed inherent structure (see key anthologies by G. W. Ford and L. Pugno, 1964, and Stanley Elam's *The Structure of Knowledge and the Curriculum*). An elaborate philosophical statement was published in the same year by Philip Phenix's *Realms of Meaning*, which delineated knowledge structures called *symbolics*, *empirics*, *aesthetics*, *synnoetics*, *ethics*, and *synoptics*.

In the 1970s, Paul Hirst extended the work of R. S. Peters (1919–2011) in analytic philosophy of education to address the issue of how the structures differed within various domains of knowledge (the disciplines). Hirst identified four characteristics of structures, each of which differed across knowledge domains: The core concepts differed across disciplines, as did the logical relationships among them and the “tests against experience”; and the different forms of knowledge have developed unique techniques and skills. On the basis of these differences in their structures, Hirst was able to identify seven forms of knowledge or disciplines: (1) mathematics,

(2) physical sciences, (3) human sciences, (4) history, (5) religion, (6) literature, and (7) the fine arts.

In the late 1960s and 1970s, Joseph Schwab (1909–1988), who earlier wrote about structures of knowledge in curriculum using Deweyan spectacles, drew on Aristotle's tripartite treatment of inquiry (theoretic, practical, and productive). He called for a pragmatic discarding of *moribund* stable theoretic inquiry that focuses on overgeneralized problems, empirical methods that seek lawlike principles for education, and ends of knowledge *qua* knowledge and advocated replacing it with fluid practical inquiry that looks for situational insights to interact with and remediate specific problems by engaging in productive eclectic arts of matching and tailoring theories with situational needs, thereby creating precedent to anticipate and generate alternative practices to enhance decision and action.

Conclusion

There is much debate today between subject matter specialists in curriculum and instruction and curriculum generalists. While subject specialists hold that knowledge is structured differently in each discipline or field, generalists hold that foundational considerations must address knowledge from myriad realms of human endeavor, not epistemology alone. Thus, one may be correct to conclude that the structures of knowledge conversation remain unsettled, enabling educators to keep alive basic questions on what is worth knowing in educational theory and practice.

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See also Bruner, Jerome; Dewey, John; Greene, Maxine; Hidden Curriculum; Knowledge, Analysis of; Liberal Education: Overview; Peters, R. S.; Radical Constructivism; Ernst von Glasersfeld; Schwab, Joseph: The Practical

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KUHN, THOMAS S.

Thomas S. Kuhn (1922–1996) is best known for popularizing the term *paradigm* and for providing an alternative account of how scientific inquiry is conducted and the nature of and relationships between scientific activity and knowledge creation. Kuhn was a doctoral student in theoretical physics at Harvard, planning to make a career as a scientist, when an experience while teaching science to undergraduate nonscience majors opened his eyes to the import of the history of science. In 1962, he published his groundbreaking *The Structure of Scientific Revolutions*. In it, he argued that science is not merely the product of scientists working with what was previously known to uncover new truths but rather that the most important events in science are jarring epiphanies that break with the tradition of a particular scientific discipline and send inquiry in new and radically different directions (thus producing a scientific revolution).

Although many scientists, historians, and philosophers have criticized Kuhn's interpretation of the history of science for a variety of reasons (the primary critique centers on the relativistic implications of Kuhn's work), he is still very influential in the philosophy of science, the philosophy of social science, and, perhaps to a slightly lesser degree, social science and educational research. While Kuhn's ideas underwent substantial changes over the course of his career, this entry will focus on what Kuhn explicated

in *Structure*, as it is the boldest and best-known articulation of his ideas.

The Structure of Scientific Revolutions

Kuhn's exploration of the history of science led him to question the traditional conception that contemporary scientific beliefs are the result of a long history of scientists building onto preexisting knowledge. Perhaps, more important, Kuhn began to question the commonly held assumption that current scientific beliefs are situated at the end of a long line of prior work that was homing in on the objective truth. Kuhn saw more differences than similarities between scientific eras. For example, traditional conceptions of scientific progress hold that Newtonian physics is built on and thus is somewhat similar to its theoretical predecessors. Kuhn argued that Aristotle's theories, rather than being the primitive foundations of Newton's thought, were actually an entirely different way of understanding the physical world, starting with other fundamental distinctions than Newton's mass, velocity, and gravitation.

Normal Science, Scientific Revolutions, and Paradigms

Kuhn identified two distinct and alternating periods or phases that recur in the history of science: (1) normal science and (2) scientific revolution. Normal science occurs when the work of scientists draws explicitly and directly from a foundation of prior work and past understandings. Normal science, in the Kuhnian sense, is a period when the direction and interpretation of inquiry is set by the aims, language, rules, and norms that constitute a framework that governs the discipline at that particular time; the aim of inquiry is to expand this normal framework and to fill out any gaps it may contain, but the aim is not to challenge or replace the framework itself. This is what Kuhn refers to as working within a paradigm (his concept of a paradigm as developed here seems to draw on Ludwig Wittgenstein's notion of a "form of life").

Kuhn highlights how normal science within a given paradigm can constrain inquiry, going so far as to refer to a paradigm as an "inflexible box" and claiming that ideas that do not fit in the box often do not even register as potentially relevant. Within this box, scientific activity tends to work toward the shoring up of the predominant way of thinking. Note just how restrictive a Kuhnian paradigm is: It is clear that according to *Structure*, groundbreaking

scientific breakthroughs do not take place while scientists are engaged in paradigmatic "mop-up" work (although this is work that can lead to advances *within* the paradigm, for instance, the more accurate determination of the value of a physical constant or a more accurate count of the number of planets in the solar system). This brings us to the crux of Kuhn's argument, the scientific revolution.

Since work within a paradigm is essentially conservative, Kuhn points to sudden jarring events in the history of science as the means by which major new discoveries were made, discoveries that changed the course of inquiry. Kuhn develops an explanation of how "normal" scientific work within a paradigm eventually becomes ripe for revolution, but his basic premise is that scientific revolutions represent sharp breaks with past ways of understanding. Whereas revolutions become more likely when normal scientific work within an existing paradigm fails to account for an increasing number of phenomena or anomalies (a situation that he refers to as a crisis), Kuhn sees the revolutionary turning point as a somewhat mysterious and often unexplainable event. Kuhn's version of how this important (revolutionary) scientific change comes about is that essentially it is a private, creative act by an individual who is immersed in the current paradigm but who is determined to find an explanation for some anomalies that the paradigm cannot seem to deal with and who resolves the puzzle essentially by "thinking outside the box."

Incommensurability

In Kuhn's theory, the paradigms involved on either side of a scientific revolution (i.e., before and after) are so completely different that communication and understanding between them is effectively impossible (think of the Aristotelian vs. the Newtonian or the Newtonian vs. the Einsteinian worldview)—a phenomenon known as incommensurability. According to Kuhn's incommensurability thesis, communication between paradigms does not work because the conceptual foundations differed, the meaning of key terms changed (*mass*, e.g., has quite different respective meanings within the Newtonian and Einsteinian paradigms), and the very questions that were regarded as important (or even sensible) differed from paradigm to paradigm. Kuhn famously remarked that it was as if the adherents of different paradigms lived in different worlds.

Over the course of his career, Kuhn's thought evolved on this issue. The idea of complete

incommensurability was expounded in the first edition of *Structure*. Later, Kuhn acknowledged that cross-paradigmatic communication was not impossible, just very difficult—after being introduced to the problems, concepts, and language of a different paradigm, scientists could begin to understand or interact with science outside of their own paradigmatic realm.

Criticisms of Kuhn's Structure

Kuhn's depiction of scientists working to explain phenomena from within the bounds of their own particular paradigms is at the core of the common critique that Kuhn's theory is too relativistic. Kuhn's philosophy of science erodes the vision of science converging on the truth; there is inquiry and advancement within a paradigm (with respect to that paradigm's agenda) but Kuhn specifically denied that there is any way to judge that one paradigm rather than another is "closer" to the truth. All scientific judgments are made from within a paradigm, and there is no external foothold from which one can pass judgment about which paradigm is best. Indeed, Kuhn was once labeled, along with Paul Feyerabend, the "worst enemy of science." This line of critique tends to view Kuhn as depicting science, overall, as irrational, arbitrary, and even possibly capricious.

Kuhn also can be regarded as a pioneer of the contemporary field of science studies that sees science as a social construction; in this approach, in explaining the changes that occur in science, the emphasis is on sociopolitical and cultural forces (sometimes called external forces, in contrast to factors such as data, derivations from theory, and the like that are internal to science). Some critics have taken umbrage with the stress Kuhn lays on communal standards and the like within a paradigm and his description of major scientific changes as being on a par with political revolutions. But, of course, Kuhn's use of this terminology was quite deliberate, as his comparison between scientific and political revolutions in Section IX of *Structure* makes clear.

Over the years, Kuhn worked to position himself as a philosopher of science, albeit one who stressed the importance of seeing science as a social endeavor; and this made him the object of attack by no less a figure than Karl Popper and his close associates; Kuhn had to face the charge (among others) that his philosophy introduced "mob rule" into science! Popper's focus on falsification led him to the view that the most important factor in the advancement of science was its openness to criticism, and

Kuhn's concept of "normal science" that was aimed to further perfect a paradigm and not to falsify it, obviously, was anathema to him.

Kuhn and Educational Theory and Research

There are reasons to question just how well Kuhn's ideas about natural sciences apply to the social sciences in general and more specifically to educational research. Kuhn never claimed that the ideas in *Structure* went beyond the specific natural science arenas on which he had focused. In fact, according to Kuhn, many disciplines were "pre-paradigmatic" in the sense that there is neither any general consensus regarding the problems and issues that need to be studied nor any agreement about the best methods to carry out such inquiries, or about which theoretical concepts are appropriate. The question of methods brings us to the most widespread influence of Kuhn on educational research, namely, the ubiquitous adoption and use of the term *paradigm*.

For Kuhn, a paradigm is a framework, incommensurable with others, within which inquiry takes place. It seems that in much of the educational literature, a paradigm has come to mean something closer to a way of conducting research, or a set of related methods. Indeed, paradigms are most often associated with methodological outlooks, examples of which include (but are certainly not limited to) postpositivist, interpretivist, and constructivist research paradigms. To take it a step further, there are also many references to qualitative, quantitative, and mixed method paradigms. These research types represent general orientations or outlooks toward research, and, as such, there is a certain logic to calling them paradigms—although it must be stressed that they lack several of the characteristics that Kuhn argued were constitutive of paradigms. In sum, it is difficult to see exactly how Kuhn's use of the term is instructive in this context.

Perhaps the best use of Kuhn in education is to make the case that research in education is different from that in the natural sciences. Educational inquiry considered as a social science, and sometimes as a humanities-oriented enterprise, requires multiple approaches and the perspectives provided by a variety of disciplines from psychology, sociology, anthropology, and economics to history and the various branches of philosophy. Educational problems are multifaceted, nuanced, and evolving, and they involve empirical matters, value issues, and more, and it stands to reason that multiple approaches

and orientations are required to adequately address these. It is counterproductive, therefore, to view educational research as being pursued via a number of incommensurable paradigms. Education research needs to have this message reinforced as it is in a period of a reductive narrowing of what gets to count as viable research. Kuhn's description of the natural sciences can help educational philosophers and researchers to understand the nature of their enterprises, both in terms of similarities and in relief to Kuhn's version of the natural sciences.

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See also Edinburgh School of Sociology of Knowledge; Lakatos, Imre; Philosophical Issues in Educational Research: An Overview; Popper, Karl; Wittgenstein, Ludwig

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LABORATORY SCHOOL, UNIVERSITY OF CHICAGO

The University of Chicago Laboratory School is one of the most distinguished pioneer schools of the progressive education movement. This entry discusses the history of the school, its purpose, and its teaching philosophy and methods.

Founded in November 1894 by John Dewey and University President William R. Harper, the “Dewey School” opened its doors as University Primary School on January 13, 1896, in the Hyde Park area of Chicago, with 12 children present and one teacher in charge. The school, since October 1897 officially called University Elementary School and since October 1898, including a subprimary department, grew continuously, reaching its peak in 1901 with 140 children (predominantly from the wealthy and educated classes), 23 teachers, and 10 graduate students as teaching assistants.

In October 1901, Dewey appointed his wife Alice as the principal of the school. At the same time, the school was renamed “Laboratory School” due to the fact that the University of Chicago by now maintained a second “University Elementary School,” having incorporated the Chicago Institute, a private normal school endowed by Anita M. Blaine and headed by Francis W. Parker. In May 1902, Dewey was elected Parker’s successor as director of the University’s School of Education (formerly Chicago Institute), and in October 1903, because of financial reasons and rapidly declining numbers

of students, the two university elementary schools were consolidated and housed together in the newly erected Emmons Blaine Hall. Dewey’s wife was the principal.

Because of her unprofessional conduct and poor management, less because of the issue of nepotism, Alice Dewey faced such powerful opposition, in particular from the former Parker school faculty (representing more than 70% of the teaching staff), that Harper had no other choice but to ask for her resignation as school principal. Dewey, anyway frustrated by administrative duties and the failure to shape the consolidated school according to his own ideas, resigned too and left Chicago in May 1904 for a professorship at Columbia University in New York City.

The School as the Laboratory of Education

From the outset, Dewey’s school was not meant to be a mere practice, model, or demonstration school—a “normal school”—where prospective teachers acquired simple instructional techniques and exercised fixed lessons and specific drills. Instead, Dewey envisioned his school as a scientific “laboratory” staffed with college-trained teachers and devoted to research, experimentation, and educational innovation. Like the Herbartians, he expected his school—as part of the university’s Department of Education—to perform two functions: first, to test and evaluate his theories about schooling and teaching and, second, to appraise the findings of these studies and work out subject matters and teaching methods for a curriculum that did

not focus on books and recitations but on children and activities. The ultimate aim Dewey strived for with his experimental school was laying the foundation for a reform that would revolutionize the educational system and, over time, transform the society into a great democratic community. Parents who feared their children might be misused as guinea pigs were reassured that the school did not experiment with children, but for children. Apart from serving as an educational laboratory, the school felt obliged to bestow a sound and liberal education on the students in its care.

Didactic and Psychological Premises

Dewey, a mild-mannered philosopher and a psychologist who had failed as a high school teacher because he could not persuade his adolescent students to behave and learn properly, did not give the Laboratory School teachers detailed instructions on what and how to teach; he rather provided them with general principles and suggestions for developing a vital and innovative curriculum.

Inspired by Herbartian precedents, Dewey devised a didactic scheme consisting of three components:

1. The *psychological*, that is, the natural impulses and interests of children that could be utilized for attaining their attention and moving them to accept as their own the topics, tasks, and projects proposed by the teacher
2. The *sociological*, that is, the social attitudes and practices the students should know about to succeed in life and play their part in a social and participatory democracy
3. The *logical*, that is, the organized contents and methods the students should study to understand the substance of subjects and the structure of science needed to survive in, and contribute to, the advancement of an industrial and progressive society

All three elements had to be thought of and striven for at the same time, or else, the teacher fell short of her educational mission. Yet of the three elements, the first had to have top priority while Dewey considered the children's impulses and interests as the only expedient starting points for effective teaching and joyful learning. Dewey identified four interests and activities every child naturally possessed: the interest (1) in communication and social interaction, (2) in making and building,

(3) in exploring and investigating, and (4) in artistic expression and self-realization.

In addition to didactic considerations, Dewey made use of two psychological concepts. In accordance with his functional (constructivist) psychology and Friedrich Froebel's concept of self-activity and self-creation, he regarded curiosity, action, and experience as basic conditions of learning—all the more, as he was convinced that children were not passive recipients of facts and matters but active agents constructing their own reality and worldview in continuous interaction with their environment. Ideally, children acquired new knowledge and skills naturally by experiencing real-life situations firsthand. Yet mere action and activity were not enough.

Dewey, in accordance with his psychology of thinking and the Herbartian theory of apperception, introduced the notion of a "problem" as another important factor in curriculum construction. For if the continuous interaction with the environment was interrupted, and if the use of familiar precepts and routines was hindered, the individual would stop, analyze the problem, search for an alternative, develop a strategy of action, and try to overcome the hindrance by applying the plan that had emerged. Coping with problematic situations by thinking and doing, children would learn, retain, and retrieve significant information definitely better than using the traditional methods of memorizing and reciting.

With these premises in mind, Dewey concluded that it was the teacher's chief business to psychologize the curriculum and convert its contents into problems and situations that were appealing and challenging for the students and could be solved by them experimentally, authentically, and, to a large degree, independently of adult direction.

Learning Through Occupations

At the Laboratory School, the students were to grow emotionally, socially, and intellectually in ways that had continuity with both their previous experiences and their present lives. To provide the basis for active and cheerful learning, diverse measures were implemented: The teachers assumed the role of group leader and created an environment that resembled that of a loving family; the school facilitated self-activity and self-expression by allocating the necessary time and resources for joint and individual undertakings in kitchen, garden, laboratory, studio, and workshop; and the curriculum was reconstructed and centered on

so-called “occupations,” that is, practical problems and activities that reproduced typical situations of social and communal life.

Instead of beginning with reading, writing, and arithmetic as is traditionally done, the lessons at the Laboratory School concentrated from the start on topics and issues pertaining to actual life and the meeting of basic human needs such as food, clothing, and shelter. In accord with the theory of culture epochs, the curriculum followed nature, while the children relived the stages it was believed that mankind had taken more than hundreds if not thousands of years as the race moved from being hunters and collectors to being farmers, craftsmen, and manufacturers. The idea was that the students acquired the three R's naturally, that is, when and so far as they needed them for tackling the situations and problems at hand. In cooking, for example, the students learned and practiced reading when they wished to decipher cookbooks, writing when they wanted to record their favorite recipes, and arithmetic when they had to count eggs, weigh flour, and measure milk. The occupations of cooking, weaving, sewing, and gardening, woodwork, and metalwork were lifelike, yet they had to be simplified, purified, and enriched so that the children were not overtaxed in their mental ability, damaged in their moral growth, or captivated in their narrow worldview. In fact, the activities were conceived so broadly that they integrated considerable subject matter in literature, art, history, geography, chemistry, and physics, and included excursions to parks, farms, and factories, to libraries and museums, with the objective of extending the horizon of the students beyond the familiar and the immediately necessary. Moreover, the teacher chose and suggested problems and situations of such nature that the students had to pass through the complete act of thinking and doing and to refer to knowledge and experiences of past and present generations (i.e., to utilize books, expertise, and scholarship) if they were to execute their plans and projects properly.

At the Laboratory School, the teacher had to alter her professional attitude and to take over new roles and functions. For her students, she was not a taskmaster and disciplinarian who relied on compulsion and punishment, on grades, examinations, and certificates, but a leader and guide in exciting and challenging activities. And with regard to her associates, the teacher was not an individual working and striving on her own but a person closely cooperating with her colleagues to coordinate the diverse

elements of teaching into coherent learning units. In theory, the school was conceived as an “embryonic democracy” where teachers as well as students enjoyed intellectual freedom and the privilege of initiative and participation in decision making and curriculum planning. Especially due to the small classes consisting of 6 to 12 students, the atmosphere at the school was liberal, relaxed, and stress free, and phenomena such as indifference, indolence, and want of discipline that rendered traditional teaching so demanding and aggravating apparently disappeared or decreased to a negligible level.

Innovative but Not Exceptional

The Laboratory School underwent numerous modifications that responded to intricate or defective structures. Five modifications occurred during the first two years of its existence: the change from all-around teachers to special subject teachers, from age-mixed groups to age-homogeneous classes, from an amorphous unit to a departmental organization, from a cooperative administration to a centralized and supervising principalship, and, most of all, from a free, nearly unregimented setting and course of study to a socially integrative, problem-based environment and curriculum.

Stimulated by Ella Flagg Young, the school's supervisor, the original inclination to scholarly dilettantism, institutional disorder, and, in particular, educational sentimentalism was overcome in 1898 and visibly surmounted with the school's first and only official “Outline of Course of Study” of June 1899. Since then the students had few and limited opportunities to influence curriculum and instruction. They were, in turn, appointed group leaders and took, in absence of the teacher, responsibility for law and order, but seldom were they engaged in projects, such as furnishing a model colonial room or building the famous clubhouse, that required genuine team work and significant collaboration in planning, deciding, and executing; and rarely were they allowed to choose between alternative topics and activities or decide autonomously what they wanted to do.

Problem-based learning as devised by Dewey had its own drawbacks. Closely bound up with experimental and creative thinking and coupled with the expectation that the students discover and reinvent the responses and solutions that people had found for the challenges and difficulties they faced in past and present times, the problem method often overtaxed

the patience, the comprehension, and the capabilities of the students. In consequence, the teachers fell back on techniques such as telling, explaining, and demonstrating to transmit the knowledge, skills, and attitudes that they wanted to convey. Therefore—and contrary to Dewey's specifications—the experiments in science did not serve to solve authentic problems or rediscover scientific laws but functioned as illustrations of facts and principles the students should observe and learn.

Even the concept of occupations, the backbone of Dewey's curricular reform, did not fulfill all the high expectations associated with it. In fact, the notion of instrumental and interdisciplinary learning in real-life situations proved only a partial success. For some parents and visitors, Dewey had turned the world upside down; their scathing criticism—that in the morning at the Laboratory School, the students learned cooking, knitting, and weaving, while in the afternoon at home, they learned reading, writing, and arithmetic—was definitely exaggerated but not totally off target. In their weekly reports, the Laboratory School teachers observed time and again that it was wearisome and laborious for students and teachers alike to catch up on reading, writing, and arithmetic when the students of advanced age were, contrary to previous years, negatively disposed toward systematic drill and practice. In addition, the concept of occupations and integrated studies inevitably became of lesser importance the higher the grades, and the more the subject matter became abstract and specialized and relatively remote from the students' actual life.

Undoubtedly, the Laboratory School ranked among the most creative progressive schools of its time. Like Parker's Cook County Normal School (founded in 1867), Nicholas M. Butler's Horace Mann School (founded in 1887), and James E. Russell's Speyer School (founded in 1902), the Dewey School contributed considerably to the liberalization of education, the humanization of schooling, and the vitalization of teaching. But unlike Parker, Butler, and Russell, Dewey overestimated the value of instrumental and problem-based learning and underestimated the grammar of schooling and the benefits the students could reap from direct and systematic instruction. After chaotic beginnings and fruitless experiments, the teachers returned to more conventional patterns and procedures so that ultimately the Laboratory School differed—in practice, not in theory—surprisingly little from other innovative schools.

The Laboratory School After Dewey

When Alice and Dewey left Chicago for New York in 1904, Harper appointed Wilbur Jackman, formerly Parker's main assistant, principal of the consolidated University Elementary School, consequently putting an end to the severe crisis the Deweys had caused by poor management and the hostile takeover of the rival Parker school. United with the Chicago Manual Training School and the South Side Academy, the Laboratory Schools, as they were called once again, lived through many changes and various highs and lows. Administered by eminent educators like Charles H. Judd, Henry C. Morrison, Ralph W. Tyler, and Philip W. Jackson, they sometimes set the direction or thwarted the trend the nation was to take in curriculum and instruction; but frequently, they have oscillated (as has the rest of the country) between programs and courses that were more academic or more child centered. Today, the University of Chicago Laboratory Schools are counted among the best preparatory schools in the United States.

Michael Knoll

See also Dewey, John; Problem-Based Learning; Productive Labor and Occupations: From Dewey to Makarenko; Progressive Education and Its Critics; Project Method

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LAKATOS, IMRE

As a participant in the influential philosophy-of-science debates of the 1960s and 1970s, mostly surrounding Thomas Kuhn's *The Structure of Scientific Revolutions*, Imre Lakatos (1922–1974) made pedagogy and critical method the dual focus of his historicist philosophy.

At Cambridge as a refuge from the 1956 Hungarian Revolution, Lakatos wrote the English language PhD thesis edited and published posthumously as *Proofs and Refutations: The Logic of Mathematical Discovery*. Influenced by his countryman, the mathematician and pedagogue George Pólya, Lakatos made mathematical heuristic—meaning informal methods of mathematical discovery, innovation, and proof—a central philosophical idea.

The book takes the form of a pedagogical dialogue between a teacher and 18 characters, named Alpha, Beta, and so forth, who debate and improve a theorem and proof of polyhedra by the 18th-century Swiss mathematician Leonhard Euler. The theorem states that for any polyhedron, such as a cube, the number of vertices minus the number of edges plus the number of faces equals two: $V - E + F = 2$ (try it for a cube: $8 - 12 + 6 = 2$). Pólya in his many books on problem solving, such as *How to Solve It*, emphasized heuristics for solving certain kinds of equations, integrals, probability calculations, and others. The emphasis was on conceptual understanding, and trial and error tested on special cases or variations, and reflected a disconnect with the mathematical logic made famous through Gottlob Frege, Bertrand Russell, Kurt Gödel, and many afterward. Logic was useful as another branch of mathematics, but how good was it at characterizing the practices that mathematicians used to create new ideas, methods, theorems, and proofs, including those of modern mathematical logic itself?

Lakatos made heuristic into his philosophical workhorse, extending Pólya's pedagogical perspective to the development of mathematics during the 19th century and modern conceptions of proof, theorems, and logic itself. The approach was thoroughly historical—the dialogue about Euler's theorem is not quite fiction. The characters represent historical innovations of 19th-century mathematics and how the modern idea of proof changed and improved throughout the century.

Through that history, Lakatos explains that these were heuristic innovations in how to conceptualize what a theorem and its proof is about and how they work together to constitute logical rigor. For Euler's theorem, this means dealing with possible counterexamples, such as a cylinder (no vertices?) or a picture frame (hidden edges on those faces?). Here is where the fallible, “conjectures and refutations” philosophy of science of Lakatos's mentor in England, Karl Popper, is brought into mathematics. Theorems, in their periods of growth and development, can be informally “refuted,” much like a scientific hypothesis. For Lakatos, 19th-century mathematicians showed how that idea was internalized into methods of proof, from identifying relevant domains (e.g., polyhedra), to finessing a theorem, via what Lakatos called the *method of proofs and refutations*, so that potential counterexamples (a cylinder or a picture frame) were either carefully excluded from a theorem's scope or reinterpreted to neutralize its contradictory status. These are the heuristic methods Lakatos claimed drove creative mathematics and were explored in detail in his historical study. That history is not just colorful window dressing. Lakatos argues, through the dialogue, that mathematical theorems embody the history that gave rise to them, wedding pedagogy and history inexorably. That applies even to modern mathematical logic as yet another informal mathematical subject, whose topic just happens to be mathematics itself.

Proofs and Refutations is a classic of 20th-century philosophy, its specialized subject matter notwithstanding. Lakatos elevated heuristic to its deserved philosophical status decades before Daniel Kahneman and Amos Tversky would use psychological experiments to critique cognitive assumptions of economic models, in large part by showing the role of heuristics in reasoning about uncertainty. The engaging dialogue format of *Proofs and Refutations*, combined with its mathematical and historical rigor, helped popularize the book's pedagogical messages. That includes a critique of what Lakatos calls the “Euclidean style” of many textbooks, meaning the overused definition–theorem–proof presentation of mathematical knowledge. That style correctly delivers a logical basis, but often disguises a proof's “logic of discovery,” or the informal interpretation of how a proof “works,” known by experts but a mystery to students. The antidote to the Euclidean style is more history of the problems motivating solutions,

thus reversing the pedagogical priority given to the “logic of justification.”

The Methodology of Scientific Research Programs

Following his graduate work, as a professor at the London School of Economics, Lakatos turned to the philosophy of science. Education and history would again play star roles, but now in a more critical spirit. Lakatos’s contribution here was his “methodology of scientific research programs” organized as a kind of historiographic toolkit. The tools make up a flexible framework for interpreting historical progress in any science, and after Lakatos’s death, the methods were applied to historical episodes in physics, chemistry, economics, geology, and even developmental psychology.

Lakatos argued that too much focus on isolated theories in science was a historical and methodological mistake. The relevant “unit” of appraisal and progress (or decline) was rather a competing *series* of theories, unified by some central tenets that are exploited and defended through an array of evolving models with more concrete verifications or refutations of varying quality. There can be creative reinterpretations of evidence, changing observational theories, with progress occurring in a “sea of anomalies,” even formal contradictions, as long as innovations allowed new, successful predictions to be made over time, and always relative to the competition. Given that, there will be ad hoc defenses, reversals of fortune, and ultimately winners and losers. What matters in modern science, for Lakatos, is less “verisimilitude” with some unknown underlying reality but mastery of a constantly expanding horizon of facts.

Lakatos’s historiographic views were quite radical, not to be matched until continental philosophers of history from Michel Foucault onward. Lakatos recognized that the sea change in philosophy was to bring history in as the yardstick against which philippics of science are to be judged, a view shared by Kuhn and Paul Feyerabend, the third member of the historicist vanguard. Lakatos frankly put it that there was no methodology outside of history, that methodology of science is but a “rational reconstruction” of science’s past. Philosophy of science and its history were inseparable and were without any absolute criterion of “verisimilitude” or “scientific reality.” Science learns through its own experience, including how to be scientifically rigorous itself.

Those standards then become the theory by which a scientific past is understood, and so too the present.

That critical learning process is the motivation behind the methodology of scientific research programs. Notably, research programs have a “historical character,” they are series of theories joined together in time by shared program goals and assumptions. Programs were in competition, such as the wave and particle theories of light, or classical and relativistic physics, so Lakatos provides methods for judging both (relative) progress and degeneration. The pedagogy here is meant to be thoroughly exoteric, means by which the necessary expertise of scientific specialization is made transparent through research program spectacles. The slow accumulation of confirmations associated with climate change over the past decade is a sad (because risky) but salient example. There are not really any “crucial experiments,” Lakatos argues, even when they are proclaimed as such. One of Lakatos’s best historical analyses was to show that the Michelson-Morley experiments on the speed of light had almost no role in early relativity theory; it was learned only in “hindsight,” as Lakatos puts it, that the experiments were part of classical physics’ concluding chapter.

Lakatos’s historiographic methods for interpreting change were also for him critical for assessing the state of play across competing programs. Feyerabend appreciated the usefulness of Lakatos’s toolkit for understanding all kinds of “normal science,” Kuhn’s notion of the more mundane working out of theory and models between more revolutionary “paradigm shifts.” But there’s always a chance for a weak program to recover (the atomic theory around 1905) or a strong one to falter (the one-way “dogma” that DNA [deoxyribonucleic acid] creates RNA [ribonucleic acid] creates protein). Scientific change, as against Kuhn’s revolutionary changes, is often a slow and irregular critical battle. Hence, criticism from philosophy, Feyerabend saw, is limited until the history is complete and philosophers can reflect on that change. Nonetheless, Lakatos’s approach, illustrated again by his carefully staged but telling historical reconstructions, form a usefully exoteric and critical pedagogy, often making arcane science and its closed debates transparent to outsiders. As put by Ian Hacking, the role of heuristic and history in *Proofs and Refutations* was “forward looking” and creative. In the philosophy of science, Lakatos’s methods are critical, explicitly historiographic, and so “backward looking.” Common to both is a vision of philosophy suffused by a remarkable

pedagogical spirit, consistent with Lakatos's influential role as a philosopher and educator promulgating ideas. In both approaches, philosophy is a descriptive means for historical reconstruction, hence also for the teaching of mathematics or science through their past. There is also a normative vocabulary for explaining historical progress without a supreme goal of matching reality or truth in itself.

Philosophical Pedagogy in the Work of Lakatos

Lakatos's convolution of history and pedagogy, whether taken as creative or critical, is wholly original in English language philosophy. It is also wholly the product of Lakatos's innovative use of the Hegelian and Marxist philosophy he learned in Hungary, particularly from his mentor and role model Georg Lukács. In a nutshell, Lakatos equals Lukács in Hungary plus Popper in England. The common denominator is learning, literally *philosophical* pedagogy, which for Lukács is epitomized by the classical idea of *Bildung*. In German philosophy, especially in Hegel, *Bildung* connotes both individual and cultural learning through error and hence is *the* basis for modern conceptions of self and society that are ultimately secular and reinventing. *Bildung* is necessarily a historical, because constructive, concept, being equally useful to writers and social scientists from Goethe, author of the first *Bildungsroman*, to Karl Marx, who conceived the *Bildung* of modern capital society. What Lukács saw, and likely taught Lakatos, was that before Marx, Hegel was the historicist philosopher par excellence, but with history as *Bildungsprozess*, not metaphysical demiurge. Hegel's *Phenomenology of Spirit* has the explicit pedagogical goal of organizing dozens of past philosophical ideas into its own stylized history of the philosophical present. *Proofs and Refutations* is a mini *Phenomenology*, but targeted to 19th-century mathematics. The caricatured "gestalts" of mathematical method presented in Lakatos's dialogue become our history of the mathematical present, just as Hegel rewrote history to serve his philosophical pedagogy. The methodology of scientific research programs is a critical philosophy of science whose *modus operandi* is the reconstruction of the history of science using contemporary critical categories of method, a way of writing histories of the scientific, rather than economic, present. Like Marx, Lakatos reinvented Hegel for his own purposes, and as shown by Lukács,

knowing how to artfully dissemble that influence. The latter is yet another means by which Lakatos educates his readers in the power of historical thought and the transmission of ideas.

John Kadvany

See also *Bildung*; Hegel, Georg Wilhelm Friedrich; Kuhn, Thomas S.; Marx, Karl; Popper, Karl

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LANGUAGE ACQUISITION, THEORIES OF

Every normal child acquires at least one language in the first few years of life. Before children start grammar school, they have effectively become adults in many seemingly complex linguistic abilities. These abilities include the capacity to produce and understand a boundless number of novel sentences and to judge whether what a sentence is stating is true or false. There are two alternative accounts of the course of children's language development. These different perspectives can be traced back to the *nature versus nurture* debate about how knowledge is acquired in any cognitive domain. The nature perspective dates back to Plato's dialogue "The Meno." In this dialogue, the protagonist, Socrates, demonstrates to Meno, an aristocrat in ancient Greece, that a young slave knows more about geometry than he could have learned from experience.

In the case of language, advocates of *linguistic nativism* contend that there is a similar gap between children's experience and the knowledge that they

rapidly acquire. Linguists working in nativism's generative tradition (whose most famous proponent is Noam Chomsky) have spent more than 50 years attempting to construct a theoretical account of what children know that they could not have learned from experience. This theory is called the *theory of universal grammar*. Its aims are to describe not only the differences among languages but also the properties that are shared by all human languages. In many instances, according to nativists, it seems highly unlikely that children encounter sufficient, or even any, relevant input about the existence of core properties, so the fact that children acquiring even typologically distant languages manifest knowledge is offered as one of the main arguments in favor of a nativist approach to language development.

In contrast to the nature approach, many researchers adopt an alternative, *nurture* approach to language development. From this perspective, language development is on par with the acquisition of knowledge in other cognitive domains, such as social skills, learning to count, learning to read, and so forth. So the nurture approach invokes *domain-general* learning mechanisms to explain how children acquire language. These domain-general learning mechanisms consist of general learning processes that are not specially tailored to acquire any particular kinds of facts about the world. Like knowledge in other cognitive domains, the nurture approach proposes that knowledge of language is accrued in a piecemeal fashion based on statistical regularities about language that can be found in the input to children. In addition to highlighting the availability of relevant cues in the input to children, advocates of the nurture approach point to children's considerable nonlinguistic capacities to form and test generalizations about language.

This entry discusses these two theoretical perspectives on language acquisition, beginning with the nurture approach and noting in conclusion why both rival approaches continue to endure.

The Experience-Dependent (Nurture) Approach

According to the experience-based approach, it is not necessary to suppose that children are innately endowed with specific contingent facts about natural languages. If the data available to children are rich enough for them to determine the structures of human languages, given the right nonlinguistic capacities to cull data and from appropriate

generalizations, then appeals to innately specified principles that are specific to language are at best a useful crutch for theorists—and at worst a source of erroneous claims about the alleged “gap” between children's conclusions about the languages spoken to them and the evidence that is available to them.

The experience-based approach contends that children's generalizations about language are formed using general-purpose learning mechanisms. These mechanisms include distributional analysis, analogy, cut-and-paste operations, and so on. The products of these learning algorithms are “shallow” records that children keep of their linguistic experience. These records are internalized by children in the form of construction types (also called templates or schemas) that encode the linguistic patterns displayed by the input. Construction types are sequences of category labels such as *NP*, *V*, *neg*, and so on, drawn from a simple typology and learned solely from experience. When children's generalizations extend beyond their experience, the supposition is that this is just one instance of a completely general induction problem that arises for all learning that involves projection beyond one's experience.

According to the experience-dependent (also called usage-based) account, all human languages contain a wide range of semi-idiosyncratic constructions that cannot be accounted for by universal, or innate, linguistic principles. On any account of language development, these “peripheral” constructions must be learned. According to the experience-dependent account, the same mechanisms that children use to learn peripheral constructions are also used to learn the core phenomena of human languages. The reasoning here is that the core phenomena of human languages are even more regular and occur more frequently than the idiosyncratic patterns. If so, then the core phenomena should be even easier to learn, with more frequently attested constructions being mastered earlier than less frequently attested constructions. Once children have mastered the core construction types, these are composed into more and more complex patterns, until the language of the child approximates that of adults in the same linguistic community. On this approach, then, child language is expected to match that of adults, although at the early stages of language development, child language is expected simply to be less articulated than the corresponding adult language. As they advance in age, children also advance in their approximation to the adult linguistic system.

On the experience-dependent account, linguistic generalizations are based on information structure, including topic (matters of current interest), focus domain (what is newly asserted), and background elements (e.g., presuppositions). The communicative function of a construction type is essential in accounting for its distribution in a language, on this approach. For example, *subjects* are the way of marking the topic of a clause. Once communicative function is taken into account, an explanation of cross-linguistic generalizations follows. Such generalizations are recurrent patterns of human languages. These are thought to be the by-product of general cognitive constraints, such as analogical processes, processing factors, and discourse-pragmatic factors. Nevertheless, the experience-dependent account anticipates substantial variability among the constructions that appear in different human languages.

As noted earlier, the experience-dependent account attempts to avoid the conclusions of nativists about the innate specification of universal linguistic principles. On the experience-dependent account, children only (re)produce linguistic expressions that they have experienced in the input, at least at the earliest stages of language development. This proposal is called *conservative learning*. If true, conservative learning would render innate linguistic principles unnecessary for language learning. Language development would consist, instead, in children developing constructions based on exposure to strings of words that learners encounter in their experience. One prominent advocate of the experience-based approach is Michael Tomasello (2000), who defends the conservative learning model of early language acquisition, for verbs. Essentially, young children's productions of verb forms are limited to forms that they have previously encountered in the input, at least for children younger than three. After age three, children start to form more abstract adultlike linguistic categories. When children make "errors," these are purged from children's grammars by (direct or indirect) *negative evidence* (lack of understanding, corrective feedback), *entrenchment* (being drowned out by the frequency of a different expression), and *preemption* (e.g., adult recasts using an alternative expression). These usage-based mechanisms assume the role played by innate constraints on the nativist account.

Recently, advocates of the experience-based approach have been exploring the possibility that linguistic facts can be learned without the kinds of abstract or implicit principles that have been

proposed in the "nature" approach to language development. One relevant discovery is that children are able to effectively learn certain linguistic properties on the basis of statistical regularities in the input. For example, Jenny Saffran, Aslin, and Newport (1996) showed that eight-month-old children could exploit statistical learning to extract information about transitional probabilities from the input (i.e., how likely one item is to follow another). Infants inferred the existence of word boundaries between three-syllable pseudowords (nonsensical combinations). Those three-syllable sequences that crossed a word boundary were not treated by the child subjects as a "word" during the posttest phase of the study, because there was a lower probability for such sequences to be repeated if they crossed a word boundary than if they were part of a "word." A second development concerns the nature of the input available to children. It has recently been argued that the input contains relevant features in sufficient abundance to support statistically based acquisition of several seemingly complex facts about language. The conclusion reached by proponents of the experience-based account is that children can extract the relevant generalizations from what adults actually say, in the circumstances in which they say them.

The Universal Grammar (Nature) Approach

The nativist solution to Plato's problem in "The Meno" supposes that children are biologically fitted, as part of the human genome, with a *universal grammar*. The universal grammar account views language acquisition as, at least in part, the by-product of a domain-specific computational mechanism. Universal grammar contains the core *principles* of language: principles that establish boundary conditions for all human languages. In addition, universal grammar spells out particular ways in which human languages can vary. These points of variation are called *parameters*. Taken together, the principles and parameters of universal grammar establish what counts as a possible human language. The universal principles enable children to rapidly and effortlessly acquire any human language without formal instruction and despite the considerable latitude in the experiences of different children.

There are several points about the principles of universal grammar (UG) that are often not fully appreciated. One point is that UG is not a theory of the grammar of particular languages. Here is an instructive quote from Chomsky (1965):

The grammar of a particular language . . . is to be supplemented by a universal grammar that . . . expresses the deep-seated regularities which, being universal, are omitted from the grammar itself. *Therefore it is quite proper for a grammar to discuss only exceptions and irregularities in detail* [italics added]. It is only when supplemented by a universal grammar that the grammar of a language provides a full account of the speaker-hearer's competence. (p. 6)

As Chomsky makes clear, many linguists study the grammars of particular languages and concentrate on what makes each particular language special; they do not concentrate on what it has in common with other languages. However, the theory of UG does not attempt to account for "exceptions and irregularities" but rather those aspects that are shared by human languages. Little is gained in arguing against UG by pointing out that individual languages contain lots of irregularities and exceptions. Any challenge to UG requires more than this.

A second point is that child language is not expected to be an approximation of the language spoken by adults in the linguistic community. This is where parameters enter the picture. As noted earlier, parameters are innately specified points of variation across languages. It has been discovered that children acquiring a language that subscribes to one value of a parameter themselves initially subscribe to another value, one that is adopted by a class of human languages, but not by adult speakers of the local language. In a sense, children are speaking a fragment of a "foreign" language for a while. This is quite unexpected on the experience-based approach and is taken by advocates of the nativism to be among the most compelling evidence for the theory of UG.

A third point is that the theory of UG is an empirical proposal about the initial state of language learners, not a proposal about the final state of adult speakers of any human language. The principles of UG determine the kinds of analyses that children can adopt. Where advocates of the experience-based approach speak of core phenomena being more regular and, hence, easier to learn, advocates of the nativist approach speak of core linguistic properties. The nativist use of *core* is quite different. A core property explains what Chomsky refers to as "deep-seated regularities." The regularities Chomsky is referring to have nothing in common with the kinds of statistical regularities that are the bread and butter of the experience-based approach.

To cite a famous example, Chomsky proposed, almost 40 years ago, that one of the core principles of UG is that all linguistic rules are structure dependent. Because UG is a theory of the initial state of children's knowledge, the claim is that children can only hypothesize structure-dependent operations and are prevented from hypothesizing structure-independent operations by their basic nature.

To illustrate, Chomsky frequently discusses how Yes/No questions are related to declarative statements. The first observation to make is that Yes/No questions and declarative statements are somehow related: For any declarative statement, there is a corresponding Yes/No question, as illustrated in (1) and (2) below. In every case, the formation of a Yes/No question is presumably based on properties that are associated with the corresponding declarative. But exactly what properties serve as the basis for forming Yes/No questions? This is the question Chomsky invites us to entertain: How are linguistic examples like (1) and (2) related to each other? One cannot answer this question by proposing a series of templates or schemas for forming Yes/No questions, such as AUX + NP + ADJ (e.g., *Are + Australians + friendly?*), DO + NP + Verb_{-tms} + NP (*Do Australians eat Kiwi fruit?*), and so on. Although this strategy will result in lots of well-formed Yes/No questions, it would miss the fact that, for every one of them, there is a corresponding declarative statement.

1. Declarative statement: *Australians are friendly.*
2. Yes/No Question: *Are Australians friendly?*

Chomsky invites us to consider two kinds of rules, both designed to establish the relationship between declarative statements such as (1) and Yes/No questions like (2). The rules are (3) and (4).

3. Rule A: Move the first occurrence of *are* to the front. (Structure Independent)
4. Rule B: Move the *are* from the main clause to the front. (Structure Dependent)

Both Rules A and B can account for the relationship between simple declarative statements and Yes/No questions such as the examples (1) and (2). Assuming that simple examples make up the preponderance of the input to young children, it is at least conceivable that some children would hypothesize Rule A, since Rule A is far simpler on any standard measure of complexity. Rule A is a "beads-on-a-string" operation that treats sentences

as sequences of words, without attributing abstract structure to them; in short, Rule A is structure independent. Rule B, on the other hand, differentiates the main clause of a sentence from any other clause, so it is based on abstract structure that is imposed onto the surface sequences of those words that are combined to form sentences; Rule B is structure dependent.

Unless children have a predisposition toward Rule B, they would not be expected to initially favor this rule over one that does not turn on the child's ability to recognize the structural distinction between main clauses, on the one hand, and embedded ones such as relative clauses, on the other. Rule A is empirically inadequate, however. To see why, we need to consider more complicated sentences, such as the examples in (5) to (7).

Look first at the declarative statement (5). Here, the subject phrase (*Australians who are sunburned*) contains a relative clause (*... who are sunburned*) that contains the verbal element *are*. Applying the structure-independent Rule A, this verbal element would be moved to the front, yielding the improper Yes/No question (6), rather than the proper Yes/No question (7). The structure-dependent operation, Rule B, would bypass the first occurrence of *are*, because it is inside a relative clause and not in a main clause. Rule B instructs us to move the verbal element *are* in the predicate of the main clause (*are friendly*), so applying Rule B yields the proper Yes/No question (7).

5. Australians who are sunburned are friendly.
6. Are Australians who sunburned are friendly?
7. Are Australians who are sunburned friendly?

If Chomsky's proposal is correct, and UG restricts children's initial hypotheses to structure-dependent ones, children should never produce statements like (6). This has been empirically verified in an experiment (Crain & Nakayama, 1987), in which Yes/No questions were evoked from 30 three- to five-year-old children, to see if they ever made mistakes similar to (6) above. Although children were found to make certain kinds of errors, they never produced questions that were consistent with structure-independent Rule A. Chomsky's argument is not simply a prediction about the absence of one kind of "error" that might otherwise be expected if children were free to try out structure-independent hypotheses. The same linguistic principle that restricts the movement of

verbal elements in English, also prevents any other kind of phrase from being fronted—adjective phrases, *wh*-phrases (those beginning with an interrogative word, e.g., *who*[*m*], *what*, *which*), and so on. Metaphorically, a relative clause is an island from which nothing can escape.

We have room for only a single example of the kind of "deep-seated regularities" that the theory of UG is designed to explain. But even focusing on this single example, a list of basic tenets of the theory can be drawn. Essentially, UG principles (a) explain how different constructions are related, (b) state what will *not* occur in child (and adult) language, (c) apply to a variety of linguistic phenomena, and (d) apply in typologically distinct languages. These basic tenets of the theory are the source of strong predictions about the course of language development.

Comparing the Competing Approaches

The debate continues between advocates of nativism and advocates of an experience-based approach to language acquisition. Because these different approaches stand in stark contrast to each other, it would seem that it should be easy to adjudicate between them. However, this has not proven to be the case—this debate continues largely because advocates of nativism and advocates of an experience-based approach have focused on different linguistic phenomena and on children at different developmental stages. The experience-based approach tends to investigate the acquisition of specific constructions, in individual languages, by very young children (toddlers). By contrast, studies based on the nativist approach tend to use slightly older (preschoolers) children, they investigate children's knowledge of principles that govern a variety of phenomena, and they investigate children acquiring historically unrelated languages. In view of these different research strategies, it is not surprising that both approaches continue to thrive and that the nature versus nurture debate endures.

Stephen Crain and Rosalind Thornton

See also Behaviorism; Chomsky, Noam; Evolution and Educational Psychology

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LEARNING, THEORIES OF

Theories of learning explain *learning*, defined as an enduring change either in behavior or in the capacity to behave in a given fashion, which results from practice or other forms of experience. Although contemporary theories of learning are heavily based in psychology, they also reflect philosophical tenets. This entry discusses the functions of theories of learning, their philosophical bases and psychological beginnings, issues addressed by contemporary theories, and two broad classes of learning theories: behavior and cognitive.

Functions of Theories

Theories of learning serve many functions. Theories help us make sense of the world because they provide coherent frameworks for interpreting knowledge gained from environmental observations and research findings. Without theories, observations and findings might be disorganized collections of information, because there would be no overarching framework with which to link them.

Theories also provide a means for generating new research through the making of hypotheses that can be empirically tested (e.g., if we do *x* then *y* should occur). By spawning new research, theories help generate data that either do or do not support them. Theories never are proven; rather, they are or are not supported. Consistent research evidence that fails to support a theory may necessitate adaptation or revision of the theory.

Third, theories help facilitate the application of research results to practice. Researchers test theoretical predictions in given contexts. A theoretical prediction supported by research suggests that educators should implement this practice to improve students' learning—but this must be done

cautiously. If the researcher's context were reading at the fifth grade, we might ask how a high school biology teacher could use this research result. The high school teacher could interpret the research findings in the context of theory and adapt the theoretical ideas for use in high school.

Philosophical and Psychological Beginnings

The roots of theories of learning extend far into the past, and it is evident that from the beginning they were strongly influenced by philosophical considerations. Plato, in the rationalist tradition, believed that the world we experience by means of our senses is not real (because it is subject to change and decay); knowledge, and genuine learning, pertained to a metaphysical realm that our souls had access to before our birth and which, in life, we could gain access to again only by use of the faculty of reason that needed a long period of training to be effective. (This is illustrated in his famous allegory of prisoners in a cave who mistake shadows on the wall—which is all that they can see—for the underlying realities. Helping the prisoners to learn involves turning their vision away from the shadows so that they can perceive reality.)

Plato's student Aristotle, an empiricist, believed that the external world was the basis for sense impressions, which then were interpreted by the mind. In reasoning about sensory data, the mind associated objects or ideas with others that were similar to or different from the new ones. The better that objects were associated with one another, the more likely that recall of one would trigger recall of the other. This notion of associationism is inherent in subsequent theories of learning.

Early psychological research was oriented toward exploring mental associations. Wilhelm Wundt established a psychological laboratory in Germany in 1879. Wundt and others explored phenomena such as sensation, perception, verbal associations, and emotions. Hermann Ebbinghaus, another early researcher, conducted experiments on associations in memory. The research programs by Wundt and Ebbinghaus were important but of limited influence because they were confined to specific locations. By the turn of the 20th century, however, more individuals conducted psychological research that reflected two schools of thought: structuralism and functionalism.

Edward Titchener, one of Wundt's students, believed that the mind was composed of associations

and that understanding the mind required studying single ideas. Titchener's psychology (*structuralism*) commonly employed introspection as a method. Participants verbally reported their experiences after being exposed to objects or events. Although introspection was intended to measure consciousness, the method often was unreliable because it required extensive training of experimenters to interpret, and participants often reported meanings and interpretations rather than immediate perceptions.

In contrast, *functionalism* held that mental processes and behaviors helped individuals adapt to environments. William James believed that consciousness was a continuous process to be viewed holistically rather than a collection of discrete pieces of information. Functionalists were influenced by Charles Darwin and studied how mental processes helped people thrive in their environments. Functionalists were interested in how mental processes (e.g., thoughts and feelings) operated, what they accomplished, and how they were influenced by the environment. They rejected introspection because it broke consciousness into discrete elements.

Contemporary Learning Theories

Current theories of learning have been influenced by the philosophical positions of rationalism and empiricism, by early psychology research on mental processes, and by the psychological schools of thought of structuralism and functionalism. Although the overlap is not perfect, behavior theories reflect many elements of empiricism and structuralism, whereas cognitive theories emphasize ideas of rationalism and functionalism.

John Watson, an early 20th-century behavior theorist, believed that for psychology to become a science it had to use the methodology of the physical sciences—this meant that phenomena studied had to be observable and measurable and that introspection would not be a source of data. Making behavior the focus of psychology satisfied these criteria. Behavior theorists do not (necessarily) deny that mental events exist but rather believe that such events are not necessary to explain learning. In contrast, cognitive theories are concerned about the mental events that behavior theorists eschew. Cognitive theorists do not believe that environmental events automatically affect learning. Rather, learners interpret such events and construct knowledge and beliefs.

Regardless of theoretical perspective, a viable theory of learning should address several critical issues.

One is how learning occurs. A theory of learning should explain how an individual moves from an unlearned state to a learned state and how experiences affect learning.

A second issue concerns the role of memory. Learning implies a relatively permanent (nontransitory) change in behavior. Without memory, every behavior would have to be learned anew each time it was necessary. A theory of learning should explain how memory operates during learning.

Third, what is the theory's stance on the role of motivation in learning? Research shows that motivation can affect learning. How does the theory define motivation and what is the process whereby motivation affects learning?

Fourth, how does transfer occur? Transfer allows people to apply knowledge and skills in new ways, with new content, or in new situations. Without transfer, all learning would be situationally specific. A theory of learning should be able to explain how this critical process occurs.

Fifth, a theory of learning should be able to explain how self-regulated learning occurs. Self-regulated learning is learning that is self-initiated and self-managed. What cognitive processes and behaviors are important for self-regulated learning? What initiates and sustains it? Much human learning occurs self-regulatively because it happens outside of formal instructional settings.

Finally, a theory of learning should explain the implications of the theory for educational practice. How should teachers structure the content and learner activities to promote learning? A theory of learning must allow people to translate its principles into practice.

Although behavior and cognitive theories differ in many ways, there are areas of overlap. Behavior theorists do not deny the existence of mental events. Rather, they believe that such events are not necessary to explain learning. Cognitive theorists do not negate the importance of behavior, because behavior indicates whether learning has occurred. Both types of theories stress learning by association. And new developments in other fields—such as cognitive neuroscience—have implications for theories' explanations of learning.

Behavior Theories

Prominent behavior theories are connectionism theory, classical conditioning theory, and operant conditioning theory. These theories construe learning

as a change in the rate, frequency, or occurrence of behavior and explain learning as a function of environmental events.

Connectionism was developed by Edward Thorndike. The most fundamental type of learning involves the forming of associations, or connections, between sensory experiences and neural responses that manifest themselves behaviorally. Through repeated practice, connections become strengthened.

Thorndike formulated two important principles of learning. One (law of effect) says that responses that result in satisfying consequences are learned, whereas those that lead to unsatisfying consequences are not learned. The second (law of exercise) held that when a response is made to a stimulus, their connection is strengthened; conversely, when a response is not made to a stimulus, their connection is weakened. As a professor of education, Thorndike wrote extensively about education, and his principles were widely applied by teachers in the early part of the 20th century to help promote learning.

Classical conditioning is a multistep procedure developed by Ivan Pavlov that initially involves presenting an unconditioned stimulus that elicits an unconditioned response. In a typical demonstration, a hungry dog might be presented with food (unconditioned stimulus), which causes the dog to salivate (unconditioned response). To establish conditioning, a neutral (conditioned) stimulus (e.g., ring of a bell) might be introduced just prior to presentation of the unconditioned stimulus. After several pairings of the conditioned and unconditioned stimuli, the conditioned stimulus might be presented alone. If the dog salivates, then classical conditioning has occurred. A new association between the conditioned stimulus and conditioned response (salivation) has been established.

Classical conditioning can occur with physiological or affective (emotional) responses. Some human learning may be classically conditioned. People can develop fears and phobias to stimuli that initially are neutral (e.g., taking tests, interacting with difficult people). But the scope of classical conditioning to explain human learning is limited because most human learning involves conscious control of voluntary behavior rather than reflexive actions.

The theory of *operant conditioning*, developed by B. F. Skinner, distinguishes two types of behavior: respondent and operant. Respondent behavior is reflexive and nonvoluntary, as described by classical conditioning theory. Most human behavior is operant, or voluntary, behavior that is emitted

in the presence of discriminative stimuli. Whether such behavior is performed in the future depends on its consequences, or the reinforcing stimuli that follow it. Behaviors that are reinforced tend to be repeated; those that are punished or followed by no consequences are less likely to be repeated. Complex actions can be learned through *shaping*, which requires that the complex behavior be broken into small component behaviors that when mastered sequentially will result in the complex behavior being performed. Learners are moved from the initial behavior to the desired behavior by successively reinforcing each approximation to the desired behavior.

Operant conditioning has seen wide applicability in education. The basic process of instruction involves shaping, where initial behaviors are what students can do now and desired behaviors are the goals of learning. Substeps are developed, each of which represents a small modification of the preceding one. Students are moved through the sequence using instructional methods (e.g., explanation, demonstration, and practice). Students respond to the material and receive reinforcement. Operant conditioning also has been applied to change students' maladaptive behaviors to those more conducive to learning, a process known as *behavior modification*.

Cognitive Theories

Three contemporary cognitive theories are information processing theory, social cognitive theory, and social constructivist theory. These theories contend that learning involves not only changes in behavior but also changes in the underlying mental processes (e.g., cognition, beliefs, and emotions). Although external (environmental) events and stimuli are important, they have no automatic effects on learning. Rather, people interpret external information and construct their own understandings, which may or may not be accurate reflections of reality.

Information processing theory views learning as the cognitive processing of information and encoding (storing) it in long-term (permanent) memory. For this to occur, information must be attended to and register in working (short-term) memory, or the memory of immediate consciousness. Learners activate relevant portions of long-term memory and relate information in working memory to their long-term memory networks. Learners help create these networks by organizing information for encoding.

Information processing theory stresses the role of metacognition, which involves individuals monitoring, directing, and regulating their actions toward learning. Metacognition includes task knowledge (e.g., what is to be learned; when, where, and how it is to be learned) and self-knowledge (e.g., personal capabilities and interests). Earlier conceptions had little to say about the role of noncognitive variables (e.g., motivation and emotions), but recent views construe these variables as cognitive resources available to learners while working on tasks.

Social cognitive theory, as espoused by Albert Bandura, predicts that learning can occur enactively through performing and vicariously through observing modeled performances. Vicarious learning takes place in the absence of learner performance at the time of learning. Vicarious learning accelerates learning over what is possible if people had to perform every action to learn and saves people from experiencing undesirable consequences. Most learning of complex skills occurs both vicariously (e.g., students observe teachers explain and demonstrate skills) and enactively (e.g., students practice and receive feedback).

Social cognitive theory postulates reciprocal interactions between three sets of influences: (1) personal (e.g., cognitions, beliefs, skills, and affects), (2) behavioral, and (3) environmental. Each of these is both influenced by the others and in turn influences them. People seek to develop a sense of agency, or the belief that one has a large degree of control over important aspects of one's life. Within this framework, a key variable is *self-efficacy*, defined as beliefs about one's capabilities to learn or perform actions at designated levels. As a personal factor, self-efficacy can influence learning (efficacious learners are motivated and use effective learning strategies) and be influenced by learning (observations of one's learning strengthens self-efficacy for further learning).

Social constructivist theory contends that individuals construct knowledge and meanings based on their interpretations of situations. People are active learners who develop understandings using information they receive and interpret. Learning is situated within contexts, which reflects the constructivist assumption that contexts are inherent parts of learning.

Social constructivist theorists have been influenced by the developmental theory of Lev Vygotsky and emphasize the social environment as a facilitator of learning. Vygotsky's sociocultural theory stressed the interaction of individual (e.g., learning differences), social/interpersonal (e.g., social

interactions), and cultural (e.g., languages and symbols) factors as keys to learning and development. Learning involves learners constructing understandings in socially mediated contexts, which they use to direct their learning and performances. Initially, the language and actions of others guide individuals' behaviors, but learners construct internalized mediators to regulate their actions. Internalization can be facilitated through social interactions in the zone of proximal development, or the difference between one's current capabilities and what can be attained with social guidance.

Conclusion

Theories of learning offer reasonable explanations of how learning occurs. They provide frameworks for interpreting research results and serve as a means of connecting research with educational practice. Theories of learning reflect philosophical ideas expressed in the doctrines of rationalism and empiricism, and early learning research helped establish psychology as a science. Two major classes of contemporary learning theories are behavior and cognitive. Behavior theories view learning as a change in the rate, frequency, or occurrence of behavior, whereas cognitive theories conceive of learning as involving changes in learners' mental processes that manifest themselves behaviorally. Research on learning is an active area, and insights from other fields (i.e., neuroscience) are likely to affect learning theories and research in the future.

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See also Aristotle; Associationism; Behaviorism; Cognitive Revolution and Information Processing Perspectives; Evolution and Educational Psychology; Faculty Psychology and Mental Discipline; Insight Learning; James, William; Knowledge, Analysis of; Metacognition; Neurosciences and Learning; Plato; Popper, Karl; Postpositivism; Problem-Based Learning; Radical Constructivism: Ernst von Glasersfeld; Self-Regulated Learning; Social Cognitive Theory; Spectator Theory of Knowledge; Transfer of Learning; Vygotsky, Lev

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LEGAL DECISIONS AFFECTING EDUCATION

It has been estimated that there are more than 10,000 lawsuits filed against school districts, schools, educators, and educational bureaucracies and officials in the United States each year. Local, state, and federal courts, both trial and appellate, are asked regularly to adjudicate a broad range of disputes involving schools and their various constituencies. Students or parents dissatisfied with some aspect of the treatment that a student has received from the educational system or a particular school or educator bring the majority of these lawsuits, but educators themselves also sue their schools and systems, as do outsiders. In some cases, schools themselves initiate the suits. There is hardly any significant area of educational policy or practice that has not been the subject of significant litigation.

Regardless of the status of the plaintiff, most education-related litigation is of little significance other than to the parties who are directly involved. Whether a student wins or loses a case claiming that a school

negligently caused a playground injury, a teacher succeeds or fails to convince a court that a contract nonrenewal was unlawful, or a contractor or school district prevails in a case regarding disagreement over work performed at a school, usually has little or no effect on the policies and practices of schools. A small percentage of cases do cause schools, school districts, and states to change the way they conduct their educational business. An even smaller percentage of cases produce landmark decisions that have profound and lasting effect on educational policy and practice.

Most of the landmark decisions in education, as in most other sectors of law, are issued by the highest federal court, the Supreme Court of the United States, but some come from the next level of federal court, a federal circuit court of appeals, or from the highest court of one of the states. Usually, these cases involve questions concerning the extent and limitations of the school's power over and obligations to one or more of its constituencies: its patrons, parents, teachers, or, most commonly, its students. Most of the landmark decisions provide a novel interpretation of a constitutional provision or statute, one that has the effect of expanding or contracting the legal rights or responsibilities not only of the parties involved in the case but also of others similarly situated. Some of the cases directly and pointedly tell educational agencies, schools, and educators what they may do, must do, or must not do. Some have effects that are more theoretical and less immediate; they expound a legally mandated theory of education, such as that children are not mere creatures of the state or that a school should function as a marketplace of ideas. Some cases are most important for what they do not do; they give legal backing to things as they are rather than mandating the changes that plaintiffs had sought.

This entry identifies and discusses some of the most important court decisions affecting education, the focus being on the United States. These cases raise a variety of legal, educational, and philosophical issues, and they can be categorized in a variety of different ways. For purposes of this discussion, the cases are organized into the following categories: compulsory schooling, curriculum, and parents' rights; religion in the school; equality of educational opportunity; school finance; students' rights; and teachers' rights.

Compulsory Schooling, Curriculum, and Parents' Rights

Pierce v. Society of Sisters (1925) was one of the earliest education cases heard by the Supreme Court.

The case was a challenge to the constitutionality of a newly enacted compulsory education law in the state of Oregon. Unlike the compulsory education laws already in existence at the time and those that exist in every state today, Oregon's law would have compelled every child between 8 and 16 to attend *public* school. The Society of Sisters, a religious order that operated an orphanage and a school, successfully argued that enforcement of the law would impermissibly damage the business of their school and would also violate the rights of parents to choose an appropriate upbringing for their children.

The Court's ruling in *Pierce* that a public school-only law violates parental rights has played an important role in defining the balance of power between parents and the state with regard to the education of children. The decision, which has come to be known as the *Pierce* compromise, affirmed the right of the state to require children to attend school but allowed parents to select a private school to satisfy the requirement. The ruling further authorized states to regulate private schools, such as by requiring the teaching of subjects required for good citizenship. The *Pierce* compromise gives legal recognition to the state's compelling need for an educated citizenry while prohibiting the state from attempting to standardize its children by insisting that teachers employed by the state teach them.

Wisconsin v. Yoder (1972) was another case in which a state was found to overstep its constitutional authority to compel children to attend school. The case involved a group of Amish parents who objected on religious grounds to Wisconsin's requirement that their children attend school beyond the eighth grade. After considering the historical record of the Amish as self-supporting farmers and the Amish plan to prepare their children to continue this tradition, the Supreme Court decided that the Amish's right to practice their religion outweighed the state's purpose in requiring children to remain in school until the age of 16 years. Still, despite the victory of the plaintiffs, the *Yoder* decision reaffirmed the general right of the state to make and enforce laws designed to ensure that all children receive an education reasonably calculated to allow them to become contributing members of society.

The Amish are not the only parents who have objected to a state's educational program on religious grounds. In *Smith v. Board of School Commissioners of Mobile County* (1987), parents unsuccessfully claimed that a school's choice of textbooks for its social studies classes violated the requirements of the

Establishment Clause by promoting the religion of secular humanism. Similarly, in *Mozert v. Hawkins County Board of Education* (1987), parents and students unsuccessfully argued that being forced to participate in programs designed to promote critical thinking, tolerance, and moral development violated their right to free exercise of religion. The outcomes of these and other similar cases indicate that exposing students to ideas, theories, and practices that conflict with or coincide with the ideas, theories, and practices of their own or another religion does not constitute a constitutional violation as long as there is no compulsion to believe or to behave in ways that their religion prohibits. Public schools have broad discretion in deciding what they will teach and what materials and methods they will employ even if parents object.

Religion in the School

The First Amendment prohibits all entities of government, including public schools, from taking any action that amounts to "an establishment of religion." Many education law cases have required courts to interpret this requirement with regard to specific actions of a school. In 1962, in *Engel v. Vitale*, the Supreme Court prohibited the longstanding practice of many public schools of beginning each day with a "nonsectarian" prayer. The next year, in *School District of Abington Township v. Schempp*, the Supreme Court prohibited schools from including Bible readings in their opening ceremonies. In 1992, in *Lee v. Weisman*, the Supreme Court banned the practice of opening prayers at graduation ceremonies, and eight years later, in *Santa Fe Independent School District v. Doe*, the Supreme Court ruled that schools could not initiate or encourage prayer at athletic events even if the prayer was selected and led by students.

The underlying principle of these rulings is that public schools must remain neutral relative to religion. In *Lemon v. Kurtzman*, a 1971 case that prohibited states from subsidizing parochial school programs and teachers, the Supreme Court fashioned a three-part test for determining whether the actions of a school violate the Establishment Clause. According to the *Lemon* test, a school program is unconstitutional if (a) its purpose is to endorse or disapprove of religion, (b) its primary effect is to aid or inhibit religion, or (c) it creates excessive entanglement between church and school. Lower courts have cited the neutrality principle and employed the

Lemon test in prohibiting other forms of school-sponsored prayer and religious ceremonies and invocations at school-sponsored events. Courts have specifically rejected claims that eliminating organized prayer from schools indicates disapproval of religion or violates the free-exercise rights of those who wish to pray.

Epperson v. Arkansas (1968) was a challenge by a biology teacher to a state law that prohibited the teaching of the theory of evolution. While affirming the general right of a state to determine the curriculum of its schools, the Supreme Court nevertheless struck down the law, because it had been adopted for a religious purpose. The sole reason for the state's ban on this one theory, said the court, was that it contradicted the religious beliefs of some of its citizens. Courts have relied on *Epperson* and the *Lemon* test in striking down a variety of state laws and school district policies mandating a "balanced treatment" between evolution and creationism or intelligent design or requiring teachers to include a "disclaimer" asserting that evolution is a theory and not a fact. At the same time, the courts have repeatedly affirmed that the fact that a school curriculum happens to be consistent with the teachings of one or more religions does not make it impermissible. Schools are free, for example, to teach that murder is wrong despite the fact that this is also a Judeo-Christian teaching as long as they have a secular reason for doing so.

Equality of Educational Opportunity

Prior to 1954, states were free to maintain separate school systems for Blacks and Whites, and school districts were free to assign students to schools or classes by race. The legal justification for racial segregation was the separate-but-equal doctrine, which held that the Fourteenth Amendment's Equal Protection Clause did not require integration but only that all citizens be given the same treatment by the state. Under separate but equal, there was no constitutional violation as long as children of all races were provided with schooling even if the state intentionally separated the children by race.

In 1954, the Supreme Court's decision in *Brown v. Board of Education* brought an end to the era of separate but equal. The Court reasoned that even if the education provided to Black children in segregated schools was equal in every tangible way to the education provided to White students, the very fact of segregation meant that the Black students were

receiving a message of inferiority that was likely to have far-reaching negative effects. Thus, said the Court, requiring Black children to attend segregated schools violates their right to equal protection of the laws.

Despite the theoretical importance of *Brown* and a few highly publicized instances of federal intervention to integrate segregated school systems, not much progress was made in school desegregation for 14 years following the decision. Then, in the decade beginning in 1968, the Supreme Court issued a number of decisions imposing specific requirements and authorizing lower courts to closely supervise school districts under judicial orders to desegregate. *Green v. County School Board of New Kent County* (1968) closed a number of loopholes that had allowed school districts to maintain segregated schools. *Swann v. Charlotte-Mecklenburg Board of Education* (1971) permitted the redrawing of school attendance areas and some limited use of busing to create more integrated schools. *Milliken v. Bradley* (1974, 1977) authorized a variety of remedial educational measures designed to counteract the negative effects of segregation but disallowed a lower court order that would have required incorporating suburban school districts into a desegregation plan. The Court's rejection of cross-district desegregation remedies severely limited the possibility of fully integrating schools in many metropolitan areas.

Since 1980, courts have found that most formerly segregated school districts have complied with their obligation to desegregate and have released them from further court supervision. In 2007, in *Parents Involved in Community Schools v. Seattle School District No. 1*, the Supreme Court issued a ruling that outlawed most if not all school assignment plans that are based either wholly or partially on race. The court declared that any reliance on race in assigning students to schools violates the Equal Protection Clause even if the purpose of considering race is to create more racial balance in a district's schools. As a result, school districts are prohibited under most circumstances from carrying out voluntary integration plans that employ race as a factor in school assignment.

Since *Brown*, groups other than racial minorities have attempted to use the courts to gain more equitable treatment by schools. Advocates for children with disabilities successfully argued in two 1972 cases, *Pennsylvania Association for Retarded Children v. Commonwealth of Pennsylvania* and *Mills v. Board of Education* that excluding these

children from school, as many states did at the time, violated the Equal Protection Clause. These decisions and the continued work of advocacy groups led to the passage of the Individuals with Disabilities Education Act in 1975 and to many subsequent court decisions further defining the educational rights of children with disabilities.

In *Lau v. Nichols*, a 1974 Supreme Court case, plaintiffs successfully claimed that under Title VI of the Civil Rights Act of 1964, limited- and non-English-speaking children had a right to some form of special assistance designed to help them overcome the educational disadvantages created by their lack of English proficiency. As with the cases involving children with disabilities, the *Lau* decision led to the passage of a federal law, the Equal Educational Opportunity Act, requiring schools to take what the law called “appropriate action” to help students who lack proficiency in English. A 1981 case, *Castaneda v. Pickard*, further defined the obligations of schools under Title VI and the Equal Educational Opportunity Act.

School Finance

San Antonio v. Rodriguez was a 1973 case in which the Supreme Court decided that a state system for funding education that provided considerably less money per pupil to some school districts than others did not violate the Equal Protection Clause. The bases of the ruling were that children do not have a fundamental constitutional right to education and that inequitable funding schemes are constitutionally acceptable if they are rationally related to the legitimate state goal of providing an adequate education to all children in the state. *Rodriguez* effectively eliminated the federal courts as a venue for plaintiffs seeking modification of an inequitable state system for funding schools. As a result, reformers turned to the state courts, a process that had already begun when *Rodriguez* was decided.

In 1971, in *Serrano v. Priest*, the California Supreme Court issued a ruling that was essentially the opposite of *Rodriguez*. The *Serrano* court declared that children do have a constitutional right to education, that inequitable funding of education is not rationally related to any legitimate state goal, and that the state is required to fund its schools in a manner that does not base the amount of money available for the education of a child on the wealth of the school district in which the child happens to reside. Although *Rodriguez* seems to overrule

Serrano, *Serrano* remains in force in California because it is based on the California constitution in addition to the U.S. Constitution. Many other state courts have issued rulings like *Serrano* requiring their state legislature to revise its system of providing funding for schools. Other state courts have echoed *Rodriguez* and allowed inequitable educational funding systems to remain in place. No court, *Serrano* included, has declared that a state is required to spend exactly the same amount of money on every pupil in the state.

Another group of lawsuits have attacked the adequacy under a state constitution of some or all of the state’s schools. Like the funding equity cases, the adequacy cases have had mixed results. The best known of the successful cases, *Rose v. Council for Better Education, Inc.*, was decided by the Kentucky Supreme Court in 1989. The *Rose* court ruled that to be acceptable under the state constitution, the education provided to every child in the state had to be reasonably calculated to meet a set of specified goals designed to prepare the child to participate in and contribute to modern society. The court concluded that it was the legislature’s duty to provide whatever level of funding was necessary to meet these goals.

Students’ Rights

In 1967, the Supreme Court in the case of *In re Gault* ruled that children are entitled to constitutional protections although not necessarily to the same extent as adults. Two years later, in the case of *Tinker v. Des Moines Independent School District*, the Supreme Court declared that students retain the right of freedom of speech while at school. At the same time, the *Tinker* decision recognized that schools must be able to maintain order if they are to accomplish their educational mission. To balance these competing interests, the Court formulated a rule, often referred to as the *Tinker* test, for determining the limits of student free speech. The *Tinker* test holds that schools may only prohibit student speech that materially and substantially disrupts the operation of the school or violates the rights of others. Generally speaking, schools may limit the time, place, and manner of student speech to maintain order within the school. However, schools may not prohibit student speech because of disagreement with the viewpoint of the speaker.

A large number of subsequent cases, including three Supreme Court cases, have further clarified the extent and limits of the free-speech rights of students.

In 1986, in *Bethel School District No. 403 v. Fraser*, the Supreme Court allowed a school to prohibit the use of offensively lewd and indecent words in a student speech given at a school assembly. Two years later, in *Hazelwood School District v. Kuhlmeier*, the Court drew a distinction between independent and school-sponsored speech. Independent student speech may only be regulated in accordance with the *Tinker* test. But when student speech occurs in a school-sponsored forum, such as a school newspaper, the school may regulate the speech for any legitimate pedagogical reason. In 2007, in *Morse v. Frederick*, the Supreme Court ruled that student speech advocating the use of illegal drugs may be prohibited at school.

Two other Supreme Court cases have formulated rules concerning student discipline designed to balance the rights of students with the school's need for order. In 1985, in *New Jersey v. T.L.O.*, the Court ruled that the Fourth Amendment protects students from unreasonable searches and seizures of their property at school. However, the decision stops short of requiring that school searches be based on the same criterion of probable cause as police searches. Instead, the Court ruled that school officials may search a student if they have reasonable grounds to believe that the search will reveal evidence that the student has violated a school rule or law. Just how strong the suspicion must be depends on a number of factors, including the exigency and intrusiveness of the search.

In a 1975 case, *Goss v. Lopez*, the Supreme Court ruled that students have a right under the Due Process Clause of the Fourteenth Amendment to a hearing before being suspended from school. At the same time, the *Goss* decision recognized that schools would be unduly burdened if they had to provide a hearing for all school-based punishments or if every short suspension required a formal process that included lawyers and presentation of evidence by both sides. Thus, the Court decided that for suspensions of 10 days or less, the school need only inform the student of the reasons for the suspension and provide the student with an opportunity to explain what happened. *Goss* indicates that more extensive procedures are required for suspensions of more than 10 days.

Teachers' Rights

In 1967, in *Keyishian v. Board of Regents*, the Supreme Court ruled that the constitutional guarantee of freedom of speech protects a teacher's right to be a member of a political organization that

opposes the government. One year later, in *Pickering v. Board of Education*, the Supreme Court found that teachers have a free-speech right to speak out on matters of public concern and to criticize the policies and actions of their school board. A number of subsequent cases have placed some limits on teacher speech that directly concerns or has a direct effect on the school. The most significant of these cases, *Connick v. Myers* (1983), allows schools to punish teachers for speaking on matters of public concern when the disruption caused by the speech outweighs the importance of the speech as public discourse.

A large number of cases have concluded that when they are not at school or on duty, teachers generally have the right to engage in noncriminal behavior as they see fit even if the community or school board disapproves. The major exception is that school boards may punish teachers for out-of-school behaviors that have a significant negative effect on their ability to do their job. Courts have been consistently less sympathetic to teachers claiming the right to behave as they wish while on duty or that academic freedom protects their right to teach as they wish. Courts have consistently stated that schools may insist that teachers teach whatever curriculum and in whatever manner the school selects. A 2006 Supreme Court case, *Garcetti v. Ceballos*, ruled that public employees do not have free-speech rights when speaking as part of their official duties.

Michael Imber

See also Affirmative Action; Children's Rights; Equality of Educational Opportunity; Ethnicity and Race; Quality of Education; Right to an Education; Rights: Children, Parents, and Community

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LIBERAL EDUCATION: OVERVIEW

Liberal education comprises a tradition of educational theory and practice that connects the intrinsic value of learning with the aim of living a cultured and flourishing life. First articulated by educators in ancient Greece and Rome, liberal education has been prominent and often dominant in Western schooling through the centuries. It has evolved from a type of education prescribed for male aristocrats to one that is frequently seen as fundamental, even essential, for everyone—and especially for responsible, democratic citizens. Despite its record as a wellspring of intellectual life and culture, both its meaning and its value have frequently been disputed; its history displays competing interpretations, a cluster of rationales, evolving curricula and pedagogy, and a diversity of educational programs mounted by a succession of institutional forms. After identifying potential conceptual confusions, this entry discusses various conceptions and criticisms of liberal education.

Liberal Education as a Type of Education

Theorists who seek to explicate education *tout court* often end up articulating a conception that closely resembles or features liberal education: Educational literature, both scholarly and popular, is often written with liberal education implicitly in mind. Advocates may write as though the term refers to the only *genuine* education. Yet liberal education is a distinctive type of education: One may, in principle, debate its value without questioning the value of education itself or implicating other forms of education. It is therefore misleading to identify it either with education *tout court* or with a *good* education. Such confusions about the concept are common because liberal education has in fact been so pre-eminent, and because it has such holistic goals and broad educational focus: a good life, one's life as a whole. It is also a common temptation for theorists to blur the descriptive and normative analyses of a practice. But building the judgment of *good education* into the very concept of liberal education and its instantiations precludes evaluative judgments, and it is fallacious to assume that an education focused on

the good life is necessarily a good education. Nor is it conceptually precise to confound liberal education with *general* education—a term that refers either to the nonspecialized portion of a degree program (which is usually intended to preserve some experience of liberal education) or to learning that is foundational to more specialized studies.

The elusive distinctiveness of liberal education is commonly denoted in contrast with other forms of education, such as vocational, religious, or professional education—and also with all varieties of training. In specifying what it *is*, rather than what it *is not*, however, educators have located the distinctive and definitive element of liberal education—what makes an education *liberal*—variously in its scope and aims, in its curricular content, in its pedagogy, and in its institutional forms.

Scope and Aims

The term *liberal* is not in this context a reference to the political viewpoint of contemporary liberalism; rather, it invokes the Latin word *liber*, meaning “free.” Even in the ancient world, the association with freedom was dual. From the viewpoint of educators, it designated the education that was suitable for those who are free (not enslaved), who have civic responsibilities, and who enjoy the leisure time to pursue activities of intrinsic value—typically men of property. From the viewpoint of the learner, it was characterized as learning that liberates the mind or soul, freeing the student from many forms of ignorance and prejudice. Both interpretations point toward the ultimate goal of living a good life, a life in which one may flourish.

Liberal education, it is claimed, provides the chief means to or essential components of a good life—or perhaps entails activities that *constitute* the good life. Different conceptions of the good in a “good life,” with different balances of intellectual and moral components, have led to further specifications of the aim of liberal education. These have included the transmission of cultural heritage and the cultivation of the life of the mind, self-actualization as the development of both competence and character, the understanding and contemplation of the world and the place of humanity within it, the preparation for informed and responsible citizenship and social service, and the acquisition of complex skills of learning and practical reasoning—critical thinking, information literacy in multiple formats, moral reasoning, and effective communication,

for example—which, along with a commitment to lifelong learning, enhance personal effectiveness. In all these apparently varying specifications, liberal education remains distinctive in connecting them with the concern for the good life and thus having broader scope and different aims from other forms of education.

The classic statement of the aims of liberal education, or at least the most influential and provocative in recent centuries, is John Henry Newman's *The Idea of a University* (1852). In its collected essays, Newman argues that liberal education is the purpose of a university, by which he means an education that cultivates the mind, that values learning for its own sake, and that is “philosophical” in presenting “a comprehensive view of truth in all its branches.” Such an education reveals the unity of knowledge (reflected in the term *university*). Newman's account is, however, decidedly Victorian in both its claims and assumptions—such as its exclusive educational focus on “gentlemen” and acknowledging the production of “good members of society” as its single, reluctant concession to “practical” ends.

Curriculum

Another historically grounded approach is to characterize liberal education in terms of its distinctive curriculum: an education in the liberal arts. The Latin term *artes liberales* was employed by classical authors such as Seneca and Cicero; it became a standard usage by the Middle Ages. Even earlier, Aristotle, among Classical Greek writers, used the cognate term *technai eleutheriai* and related forms (*Politics*, 1337b to 1338b) to designate studies that encouraged intellectual and moral values, in contrast to “banausic” or practical studies, such as technical training. Both the Greek and Latin terms may be rendered equally well as “the liberal arts” or as “the skills of freedom”; they denote prescribed disciplines, meaning both bodies of knowledge to be studied and regimens for the mastery of skills or crafts. This educational regime featured a breadth of study in subjects that comprehensively represented the most valuable forms of learning for free individuals.

The proper list of liberal arts disciplines and their relative priority has been the subject of frequent dispute. The prototype of such debate is the conflict between Socrates and the Sophists, continued in the competitive schools of Plato and Isocrates, in which the tension focused on the comparative importance

of dialectic and rhetoric. In the 2nd century BCE, Varro employed a list of nine liberal arts (*Nine Books of Disciplines*) as the basis for organizing knowledge. Two of those, medicine and architecture, neither of which had ever been included in the Greek list, were dropped thereafter. The remaining seven were eventually organized into two divisions: the methods studies of the *trivium*, including logic, grammar, and rhetoric; and the substantive studies of the *quadrivium*, including arithmetic, geometry, astronomy, and music. “Music” here (from the Greek *mousikē*) embraces those studies inspired by the Muses—roughly, the humanities and fine arts. This curriculum was ultimately completed by the capstone study of philosophy (dialectic or philosophical theology), which was seen as the quintessential liberal art. A chief architect of this scheme was Martianus Capella, who codified this list in his elaborately allegorical work, *De nuptiis philologiae et Mercurii* (written between 410 and 429 CE). It portrayed the marriage of eloquence and wisdom, celebrated in the groom's gifts of the seven liberal arts. This odd, allusive work was enormously influential, defining the liberal arts and inspiring its iconography for seven centuries, from the Middle Ages until the 12th-century stirrings of the Renaissance.

The rediscovery of ancient texts that energized the Renaissance stimulated a shift in prescribed curricular content. Scholars used the term *studia humanitatis* to describe the study of the human experience based on classic texts. Beginning perhaps with Pierpaolo Vergerio's *De ingenuis moribus et liberalibus studiis* (1403), and elaborated in the works of thinkers such as Leonardo Bruni, Erasmus, and Juan Luis Vives, the text-based study of the “humanities” was given special emphasis as the core of liberal education.

From the Enlightenment to the present day, rapid changes in the scope and structure of knowledge have altered the curriculum. Natural philosophy spawned scientific disciplines—physics, chemistry, biology, and geology—as integral, empirical fields. In the 19th century, the social sciences (economics, political science, sociology, and anthropology) along with psychology emerged from philosophy to become distinct disciplines. All claimed a place within liberal education; they could not be ignored in an education that aimed at a comprehensive understanding of the world and the human condition. Such scientific disciplines would of course present a challenge to a curriculum largely devoted to the study of classical humanities. During the same

period, moreover, there arose internal challenges to the curricular mandate of classical texts and the requisite study of Latin and Greek. The humanities were modernized to include literature, philosophy, and history originally written in vernacular languages and focused on more recent periods.

In the 20th century, disciplines morphed in method, exploded in content, multiplied further, split into subdisciplines, and blended in interdisciplinary fields of study. In addition, where the content had been Eurocentric, it expanded to include the languages and cultures of other areas of the globe, as well as peoples previously marginalized within Western cultures. The traditional focus of study on artifacts of “high” culture was widened to include “popular” culture as well.

The impact of these developments produced two deep problems for the liberal education curriculum. The first was that the fissure between the humanities and the sciences, along with the sheer profusion of fields, challenged (pace Newman) the long-standing belief in the unity of knowledge. “Arts and sciences,” a clarifying term with increasing popularity, suggested both inclusion and division. The second was that, as the diversity and scope of knowledge exceeded reasonable curricular bounds, the touchstone of curricular comprehensiveness had to be replaced by a principle of selection. “Degrees in course,” in which all enrolled students were taught the same sequenced content, were replaced by programs that permitted alternative choices for elective and specialized study.

As this brief sketch of curricular evolution suggests, it is problematic to define “liberal education” as study of a particular list of liberal arts disciplines. Theorists who nonetheless look to curricular content have sought firmer ground from two other sources: a treasury of endowed cultural artifacts or deeper epistemic structures that underlie the disciplines. Those turning to culture, most of them heirs to the humanistic emphasis, move to greater particularity; they identify the content of liberal education with a set of masterworks endowed with cultural meaning: the great texts and masterpieces of art that form “the canon.” The standard of “greatness” may imply a universality of theme, illumination of the human condition, virtuosity of execution, extent of cultural influence or currency, or inherent value. Robert Maynard Hutchins (1929–1951) proclaimed the value of this Great Books curriculum from his perch as president and then chancellor of the University of Chicago. Like-minded colleagues spread the Great

Books idea throughout the United States: Scott Buchanan and Stringfellow Barr shaped the identity of St. John’s College (Annapolis, Maryland) through the establishment of an undergraduate program based entirely on the reading of Western classics; Mortimer J. Adler pursued a multipronged effort to encourage all citizens to engage with classic texts—study guides, group reading programs, inexpensive editions of canonical texts, comprehensive curricula (e.g., the Paideia Program), and even a foundation to promote such programs. The British thinker, Michael Oakeshott, memorably described such an education as participation in the inherited conversation of mankind. Theorists may become even more specific and identify the proper curricular content as that set of memes essential for participating effectively in contemporary culture. But this movement to a curricular essentialism that specifies requisite texts or memes for cultural literacy carries notorious risks of parochial vision, subjective bias, and presumptuous cultural hegemony.

Alternatively, theorists may locate the content of liberal education in fundamental epistemic structures that undergird the disciplines. Such structures might be theorized, for example, as methods of inquiry, realms of meaning, or a priori structures of knowledge. Thus, a liberal education might require an understanding of the methods of science, for example, rather than the study of specific scientific disciplines or memes; it might require humanistic study, but not necessarily English history or the plays of Shakespeare.

Contemporary liberal education typically involves the following:

1. Required selective breadth of study distributed across forms of knowledge or linked to broad learning goals
2. The choice of a field for study in depth—the major
3. Elective studies
4. An array of experiential educational activities, such as service learning, internships, study abroad, research collaborations, and purposeful cocurricular activities

Pedagogy

Some educators prefer to call an education “liberal,” if it employs certain distinctive pedagogies. In this approach, a liberal education is less about *what* is taught and more about *how* it is taught; one might therefore claim that a subject like accounting is

appropriately part of a liberal education provided it is taught “liberally.”

But explicating just what it means to teach liberally is difficult. First, teaching methods change, so one must comprehend this evolution in any account that is meant to transcend the methods of the moment. Second, there are several levels at which one could locate a distinctive pedagogy: from the reliance on specific teaching techniques to the fundamental assumptions and values manifested in teaching. For example, liberal education is often identified with the technique of Socratic dialogue, the give-and-take of proposal and critique in a conversation aimed at a clarifying and deepening the understanding of contested concepts. But one could speak more broadly of teaching “liberally” as the sort of teaching that routinely requires students to go beyond remembering and comprehending to engage in “higher” activities such as evaluating, analyzing, integrating, and synthesizing or creating content. Finally, one may offer a holistic account of liberal pedagogy, describing it, for example, as teaching that respects the student’s autonomy and critical faculties, that embodies the love of learning, or that constantly refers to “the larger picture” of personal, social, and moral implications.

Critiques and Contemporary Issues

One popular genre of criticism faults current practice as failing to live up to the ideals of liberal education. Allan Bloom—philosopher, classicist, and another Chicago advocate of a “Great Books” curriculum—virtually defined the genre in his widely read jeremiad, *The Closing of the American Mind* (1987), which has spawned scores of imitations and refutations. Depending on the conception of liberal education endorsed by the author, these critiques may diagnose the causes of decline as curricular dilution and incoherence, technology or programmatic distractions to learning, subversive student culture, the adoption of corporate or utilitarian values, faculty inattention to teaching, overspecialization, the research ethos, the failure to connect with human lives or to pose “big questions,” or other alleged degradations.

Another genre of critiques targets the ideal of liberal education itself. The charges include perennial allegations that liberal education is essentially impractical and remote from the genuine issues of life, elitist in practice and aristocratic in values, inappropriately academic as the required core of

schooling, and resistant to assessment of its claims. Postmodern critics have added charges that liberal education is excessively rationalistic; indifferent to emotions, relationships, and family and professional responsibilities; and that it is a lofty ideal that masks sexism, elitism, and cultural imperialism—or that anachronistically presumes a common culture. Such critiques, however, are usually directed, implicitly or explicitly, toward particular conceptions of liberal education.

Today, a declining portion of degrees earned in higher education are in the liberal arts; many pronounce liberal education to be in peril. Yet it survives, is periodically renewed, and often thrives in many secondary schools; in small, independent liberal arts colleges; in designated public liberal arts universities; in the arts and sciences divisions (or “university colleges”) of many research universities; and in the resurgent educational institutions of numerous recently liberated countries around the world.

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See also Adler, Mortimer, and the Paideia Program; Cultural Literacy and Core Knowledge/Skills; Education, Concept of; Essentialism, Perennialism, and the “Isms” Approach; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Liberalism; Oakeshott, Michael

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LIBERALISM

The meaning of liberalism, conveyed immediately by the term itself, involves a political philosophy centrally devoted to liberty. As with any grand political philosophy, however, the meaning of liberalism is deeply contested, so much so that it is perhaps easier to speak of varieties of liberalism rather than liberalism as such: classical and modern liberalism, comprehensive and political liberalism, neoliberalism, libertarianism, welfare liberalism, and so on. John Locke, Adam Smith, Thomas Jefferson, James Madison, John Stuart Mill, John Dewey, Isaiah Berlin, John Rawls, and Jürgen Habermas all are exponents of liberalism, but in their work can be found different interpretations of liberty, yielding different understandings of the boundary between the public and the private domains, the role and nature of education, the appropriate scope of toleration, and the conditions of legitimate state power. This entry examines the essential characteristics of any liberal political philosophy, noting where differences in interpreting core concepts lead to different varieties of liberalism.

However, it is important to stress at the outset that the educational challenges presented by the various forms of liberalism that are described below are daunting and indeed are hotly contested—which perhaps explains why the literature focusing on liberalism in philosophy of education has been rapidly growing for several decades. Thus, among the questions addressed are the following: Should autonomy be cultivated in children, and if so, how? What civic virtues and skills are necessary, and what role ought the schoolhouse play in fostering them? Do parents have the right to control the nature of the education of their children, whether in homeschooling or in private or public schools? How is equality of educational opportunity to be understood, and how is that ideal to be related to the liberty interests of parents and communities to construct educational

opportunities for their children? Do communities or cultural groups have rights that, in educational contexts, outweigh the freedom of children to be self-determining? What rights in determining the nature of education are possessed by the state? What conditions need to be provided so that individuals become equal as citizens and are able to exercise their individual freedoms?

Preliminary Observations

At its most basic, liberalism describes a political philosophy in which liberty or freedom of the individual is central. Individual liberty is taken to be a default position, a starting presumption, and restrictions on liberty, especially those imposed by the state through coercive means, stand in need of justification. The foundational role of individual liberty delivers a limited government or restrained state that respects human conscience and religious diversity and that champions, in Jefferson's famous words, "life, liberty, and the pursuit of happiness." The educational implications are nontrivial.

Historically, liberalism arose during the Enlightenment, when the basic building blocks of many social orders—the divine right of kings and aristocratic privilege—were challenged and eventually uprooted in the American and French Revolutions. The first systematic expression of a liberal political philosophy can be found in the 17th-century philosopher Locke, who developed in his *Two Treatises of Government and a Letter Concerning Toleration* (Locke, 1689/2003), the idea of legitimate political order emerging from individuals in a state of nature who consent to be governed. Liberalism has since been associated with social contract theories of government, in which the legitimacy of government depends on the consent of the governed. Though scholars frequently argue that liberalism has some roots in antiquity, it is quintessentially a modern political philosophy.

Liberalism as a political ideology must not be confused with the frequent invocation of the term in ordinary politics, in which liberals are contrasted with conservatives, and where liberalism is a mark of political praise or condemnation. We may sensibly talk about liberals occupying space on the left and conservatives on the right of a political spectrum, but in many countries, both liberals and conservatives embrace liberalism as a political ideology. Most democracies today can be described as *liberal* democracies, committed to individual liberty, limited

government, and religious toleration. Among contemporary democratic countries, liberalism is the predominant political ideology.

Core Characteristics of Liberalism

Liberalism, however defined, has three core commitments: (1) *ethical individualism*, (2) *individual liberty*, and, growing out of these, (3) an understanding about the *relationship between the individual and the larger state or society*.

Ethical Individualism

What is the primary unit of analysis, or most fundamental element, around which society and political order is constructed? For some, and for most of history, the answer is the family, the clan, the ethnic or racial group, the nation, or a people; the claims of individuals can be subsumed under those of the group, and the task of political order is to promote the interests or well-being of a collective entity. For the liberal, the individual is ethically prior to any group, including the state itself. In its commitment to ethical individualism, liberalism does not deny that groups can have moral significance but understands the moral claims of the individual to be prior to those of any group. Families, clans, and other groups matter morally, but they matter because they contribute to the well-being of individuals.

Ethical individualism stipulates that each person matters, and matters individually in addition to whatever affiliations or attachments he or she has to collective entities. Moreover, each person matters, and matters equally; no hierarchy of persons or citizens can overturn the equal dignity and status of every individual. Males shall have no inherently greater status than females, no racial group a subordinated civic status. Thus, ethical individualism obliges one to evaluate political (and educational) institutions on the basis of how they protect and promote the well-being of individuals, where the equal moral status of all individuals is assumed. This is the methodological starting point of liberalism, and it makes clear that liberalism shows respect for the claims and concerns of individuals as stewards of their own lives, entitled to conduct their lives in accordance with their most deeply held values.

Individual Liberty

So liberalism begins with individuals and respect for their claims and concerns. So much is obvious. Individuals possess liberty and their liberty must be

respected, both by the state and by other citizens. To say this—that we must understand human beings as free—is important and nontrivial, for many political theories deny the primacy of individual liberty or deny that certain persons ought to be accorded liberty at all. But what might it mean to respect the liberty of an individual? What does it mean for a person to be free? How does liberalism understand individual liberty?

In his classic essay “Two Concepts of Liberty” (1958/1969), Berlin articulated a distinction that captures two concepts of liberty that yield very different understandings of the task of liberal government. This is the distinction between negative liberty and positive liberty.

Negative Liberty

Liberty understood in the negative sense is freedom from interference or the absence of restraint or coercion. Berlin (1958) writes,

I am normally said to be free to the degree to which no man or body of men interferes with my activity. Political liberty in this sense is simply the area within which a man can act unobstructed by others. If I am prevented by others from doing what I could otherwise do, I am to that degree unfree; and if this area is contracted by other men beyond a certain minimum, I can be described as being coerced, or, it may be, enslaved. (p. 122)

So understood, liberty is freedom from external impediments. Individuals possess liberty when they are free to avail themselves of actions or opportunities open to them; whether they actually do act on their options is less important than that they are at liberty to do so.

Positive Liberty

Liberty understood in the positive sense is freedom to act according to one's own will and to direct one's own life. It refers to a sense of individual capacity or, for some, the condition of being an autonomous agent. It is *freedom to* rather than *freedom from*. In Berlin's (1958) words,

The “positive” sense of the word “liberty” derives from the wish on the part of the individual to be his own master. I wish my life and decisions to depend on myself, not on external forces of whatever kind. I wish to be the instrument of my own, not of other men's, acts of will. I wish to be a subject, not an object; to be moved by reasons, by conscious

purposes, which are my own, not by causes which affect me, as it were, from outside. I wish to be somebody, not nobody; a doer—deciding, not being decided for, self-directed and not acted upon by external nature or by other men as if I were a thing, or an animal, or a slave incapable of playing a human role, that is, of conceiving goals and policies of my own and realizing them. (p. 131)

A common interpretation of Jean-Jacques Rousseau, for instance, reflects an understanding of liberty as positive liberty: A person is free to the extent that he acts in accordance with his will, a will that is also the general will (Rousseau, 1762). Unless individuals effectively “own” or endorse their actions, they are not authors or self-directors of their lives, and to this extent, they lack freedom. They are subject to the will of others or to the capriciousness of their own desires; they are manipulated and manipulable, even if never coerced.

Hence, a person may be free in the negative sense, unimpaired by external constraint, but unfree in the positive sense. The schizophrenic, the elderly person suffering from dementia, the very young child: All might be free from external impediment but are in some important sense unfree, for they do not possess positive liberty, they are not full, or autonomous, agents. Conversely, a person may enjoy positive liberty but be unfree in the negative sense.

A conventional way to understand the difference is to see negative liberty as the domain of circumstances external to an agent (e.g., to what extent is a person free from the control of others?) and positive liberty as the domain of circumstances internal to an agent (e.g., to what extent is a person self-determining, in control of her will?).

These different understandings of liberty yield sharply different political and educational implications. A liberalism committed to a conception of negative liberty delivers a decidedly limited or restrained government, a circumscribed public domain, and an especially wide scope for private action and a circumscribed role for public education; such a state is firmly antipaternalist, disinclined to interfere or intervene in citizens’ lives except when their actions impinge on the liberty—and to that extent injure or harm—others. A liberalism committed to a conception of positive liberty delivers a still limited or restrained government, but one nevertheless justified in deploying state action, even coercion, to create the conditions in which people can fully exercise their liberty. For individuals to achieve autonomous agency and

the possibility of self-direction, it might be necessary, for instance, that state action delivers education to all or mounts widespread antipoverty programs.

Berlin worried that the notion of positive liberty was potentially dangerous, for it could easily lead to abuses of state power. “It is possible, and at times justifiable,” Berlin (1958) wrote, “to coerce men in the name of some goal (let us say justice or public health) which they would, if they were more enlightened, themselves pursue, but do not, because they are blind or ignorant or corrupt” (pp. 132–133). For the adherent of negative liberty, state paternalism is nothing short of despotism. For the adherent of positive liberty, failing to promote the conditions of individual agency, or autonomy, is to permit a formal freedom for all—but what value is negative liberty to the desperately poor, woefully ill, or simply ignorant?

Very generally, classical liberalism and libertarianism valorize negative liberty and the concomitant ideas of antipaternalism, freedom to trade and contract, and strict protection of private property. Modern liberalism and welfare liberalism valorize a version of positive liberty and the concomitant ideas of personal autonomy and a social safety net that liberates people from hunger, sickness, poverty, and lack of education. The most influential recent defense of this latter vision, marrying a liberal political philosophy to a theory of distributive justice, is Rawls’s *A Theory of Justice*.

Relationship Between the Individual and State or Society

With the core characteristics of ethical individualism and individual liberty in place, it is easy to see how liberalism leads to a distinctive view of the relationship between the individual and the larger state or society. In contrast to monarchic or theocratic or aristocratic modes of government, liberalism respects the sanctity and dignity of all individuals, conceiving them as moral equals. Built around respect for individual liberty, liberalism guarantees freedom of conscience and grants permission to guide one’s life in accordance with one’s deepest convictions. The consequence is that individuals can, and do, make different decisions about how best to live. The seedbed of liberty produces a diverse flowering of ways of living. Liberalism does not possess a unitary vision of the good life. It not merely permits but actively champions in Mill’s memorable phrase “experiments in living.”

The liberal state therefore creates a regime of respect and toleration in relation to its citizens. In respecting persons as self-directed moral agents, liberalism tolerates the pluralism of values and beliefs that such agents come to endorse.

Liberalism is not only a philosophy of political institutions and the relationship of citizens to them. It delineates a vision of the relationship between individual and society too. As Mill was at pains to insist, the judgment of fellow citizens could be just as damaging to individual action and experiments in living as the coercive actions of the state. In its ethical individualism and championing of individual liberty, liberalism creates a social dynamic in which individuals might resist, should they so wish, the values of elders imposed on the young or the traditions of a cultural group transmitted across generations. Families, religious and cultural groups, and associations of all other kinds naturally have significant power and influence over the beliefs and behavior of their members, but their authority is legitimate only to the extent that they win the ongoing consent of the governed.

Some complain that liberalism is to this extent suspicious of community, that it represents a view of persons as atomistic individuals in principle unencumbered by deep attachments to family, friends, and groups. But this is mistaken. Liberalism conceives of the relationship between individual and society as one in which people are adherents, even devoted passionate adherents, of voluntary associations, defined by revocable membership.

And what of those associations that cannot ever be voluntary, such as the state or family into which we are born and through which we are socialized? Even here, liberalism views these initially involuntary associations as demanding some kind of ultimate or hypothetical consent. For Rawls, the liberal state is an association of associations, a social union of social unions, and, like any association or social union, subject to a demand for legitimacy. What makes the liberal state legitimate is the agreement of its members to be bound by principles of justice that govern their association. For Locke, children are not *born free* but *born to freedom*; they are to be emancipated from the authority of their parents and to be educated in the interim.

Rob Reich

See also Autonomy; Children's Rights; Citizenship and Civic Education; Communitarianism; Dewey, John; Equality of Educational Opportunity; Locke, John;

Mill, John Stuart; Multicultural Citizenship; Rawls, John; Right to an Education; Rights: Children, Parents, and Community; Rousseau, Jean-Jacques

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LIFELONG EDUCATION

The *ideal* of education as a lifelong endeavor is old and found in many of the world's societies and cultures (Faure et al., 1972). In these societies and cultures, it was usually an ideal for an elite group of scholars and perceived in terms of their personal flourishing. This entry discusses the evolution of the idea of lifelong education and its institutionalization and the key elements of the lifelong education movement.

Bogdan Suchodolski quotes Comenius's writing on *pampaedia*, or universal education, as the first treatise on the subject (Suchodolski, 1979, p. 36). After World War I, however, a British Adult Education Committee of the Ministry of Reconstruction argued in 1919 for the need for adult learning to be both universal and lifelong (Gestrelus, 1979). "Adult education," it said, "is not a luxury for a limited, exclusive group of specially selected individuals, but an integral part of social life. For this very reason," it argued, "adult education should be made available for all as well as be made permanent" (Suchodolski, 1976, p. 58). The report cited the country's economic

recovery and the rights and responsibilities of democratic citizenship as its central arguments (Jessup, 1969, p. 18). In 1929, Basil Yeaxlee (1929), the chief political mentor of the committee, published a pioneering book on lifelong education, and a center for continuing education was founded at the University of Minnesota in 1934 that worked with the principle that “education should not come as a break in people’s lives, in the form of recapitulation and continuation courses,” but should “be considered as being permanently in progress” and that it should include not just formal courses but also “more occasional and informal forms of learning which can occur at work and in leisure time in conversation, discussions, reading newspapers, listening to the radio, watching television, etc.” (Gestrelius, 1979, p. 278).

We find further arguments for lifelong education in Sir Richard Livingstone’s 1943 book *Education for a World Adrift* (Jessup, 1969, p. 17) and from Alfred North Whitehead, who argued in 1947 that the rate of change in our times necessitated lifelong education for all. Later, the idea received the backing of international organizations such as the United Nations Educational, Scientific and Cultural Organization and the Organisation for Economic Co-operation and Development in the 1960s under the names of *lifelong education* and *recurrent education*, respectively, while elsewhere, it was referred to as further and continuing education and *education permanente* (Dave, 1976, p. 15).

Institutionalization of the Idea

While these approaches bring to the history of the idea of lifelong education a “concentrated and systematic attack on the question of how to foster and support lifelong learning,” they do not by themselves bring clarity (Cropley, 1979, p. 9). The decisive move toward institutionalizing lifelong education, rendering it a strategic goal for collective social and political action addressed through the creation of appropriate policies, structures, and institutions, was triggered by the growing realization that accelerating change brought by the sustained impetus of scientific and technological revolution was posing serious challenges for societies that their schooling systems were ill-equipped to meet. It was also realized that “innovations which formerly called for sustained effort by several generations are now accomplished by one only” and that “from decade to decade man is faced with a physical, intellectual and moral universe so vastly transformed that yesterday’s interpretation no

longer meets the need” (Lengrand, 1975, p. 26). As one source colorfully expressed this latter thought, “*For the first time in history education is now engaged in preparing men for a type of society which does not yet exist*” (Faure et al., 1972, p. 13). Among the “challenges” were those posed by the new information technology, rapid demographic expansion, new political realities, substantially increased leisure time, crises in patterns of life and relationships, and in ideologies (Lengrand, 1975). Lifelong education was identified as the relevant strategic response to them. However, as Huey B. Long pointed out, the concept itself was still largely anomalous, “While the labels of adult education, career education, continuing education, *education permanente*, lifelong education and lifelong learning are sometimes used interchangeably they are also frequently used to describe something quite different” (Long, 1974, p. 4).

The Lifelong Education Movement

A certain consistency existed, however, in the literature of a lifelong education movement that grew around the United Nations Educational, Scientific and Cultural Organization, with the following distinctive features:

1. A leftist program for social and political change encapsulated in the notion of a learning society
2. The redefinition of schooling as a stage of lifelong education and an aspect of a learning society
3. The inclusion of informal learning as a significant element of lifelong education strategies and of a learning society

The movement identified John Dewey as its point of reference (see Cross-Durant, 1984; Wain, 1987). Dewey wrote in 1916,

Since life means growth a living creature lives as truly and positively at one stage as at another, with the same intrinsic fullness and the same absolute claims. Hence education means the enterprise of supplying the conditions which insure growth, or adequacy of life, irrespective of age. (Dewey, 1916/1966, p. 51)

and that

the inclination to learn from life itself and to make the conditions of life such that all will learn in the process of living is the finest product of schooling. (Dewey, 1916/1966, p. 51)

The movement died a “natural” death in the late 1980s, while the term *lifelong education* has been superseded in our time with the less contested “lifelong learning” (see Wain, 1987, 2004).

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See also Comenius, Johann Amos; Dewey, John; Education, Concept of

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for the future of the planet too: Much of the most sophisticated knowledge about how to live sustainably, in balance with the ecosystem, is encoded in them. Linguistic human rights, especially in education, are one necessary prerequisite for the maintenance of linguistic diversity (LD). This entry defines linguistic diversity, discussing how it has been measured and how it is related to biodiversity. It examines issues related to educational policies that may enhance Indigenous and minority/minoritized languages and cultures.

Linguistic diversity has been defined as “the range of variation exhibited by human languages,” or as “the variety and richness of languages in human societies.” *The Ethnologue: Languages of the World*, a reference work (Lewis, Simons, & Fennig, 2013) and website that at present provides the best list of the world’s languages, reports that there are 7,105 “living languages.” Of these, 2,146 are in Africa, 1,060 in the Americas, 2,304 in Asia, 284 in Europe, and 1,311 in the Pacific. It lists only 126 sign languages, native languages of the Deaf—there are many more. Eight languages (0.1%) have more than 100 million first-language speakers, 77 (1.1%) between 10 and 100 million, and 308 (4.3%) between 1 and 10 million; fewer than 200 languages have more than 3 million first-language speakers. Thus, the languages that make up most of the world’s LD are small in terms of number of speakers.

The concept of “a language” is far from clear. There are, and cannot be, any precise definitions of what a language is, as opposed to dialects, sociolects, or other variants. One cannot differentiate between “languages” and “dialects” on linguistic grounds—it is always a political decision. Danish, Norwegian, and Swedish are structurally close to each other, and the speakers can understand each other to a large extent—still they are seen as different languages. What was two decades ago one language—Serbocroatian—is now officially Serbian, Croatian, and Bosnian. The *Ethnologue* lists 41,186 alternate names and dialect names for 7,413 languages.

LD can be measured in various ways; the most diverse countries are claimed to be the ones with the largest numbers of languages. With this measure, Papua New Guinea, with 836 languages, would be the world’s most linguistically diverse country, followed by Indonesia (707), Nigeria (529), India (454), the United States (420), China (301), Mexico (288), Cameroon (281), Australia (245), Brazil (228), Democratic Republic of the Congo (215), Philippines (192),

LINGUISTIC DIVERSITY

Many of today’s languages are endangered. Maintaining all the languages in the world is important not only for several areas of research but also

Canada (173), Malaysia (146), Myanmar/Burma (146), the Russian Federation (137), Chad (132), Tanzania (127), Nepal (122), Vanuatu (116), and Vietnam (111) (<http://www.ethnologue.com/statistics/country>).

Greenberg's diversity index measures the probability that any two people of the country selected at random would have different mother tongues. This gives a different order for the highest- and lowest-diversity countries. Papua New Guinea is still the top country, followed by Vanuatu, Cameroon, Solomon Islands, and Central African Republic (see table 8 on the website; http://www.ethnologue.com/ethno_docs/distribution.asp?by=country#7).

Many languages are seriously threatened. Most in, for instance, Australia, Canada, and the United States have extremely few speakers and will, unless very drastic measures are taken immediately, not have any speakers by the year 2100. Minimally half of the world's spoken languages, and, in more pessimistic but realistic estimates, 90% to 95% of them will be extinct or very seriously threatened (no longer learned or spoken by children) by the year 2100.

UNESCO's (United Nations Educational, Scientific and Cultural Organization) Interactive Atlas of the World's Languages in Danger divides the 2,474 endangered languages into five categories: (1) vulnerable (601 languages), (2) definitely endangered (648), (3) severely endangered (526), (4) critically endangered (576), and (5) extinct (231). The most important criterion is intergenerational transmission, that is, whether most speakers are elders or whether the languages are still learned by children.

David Harmon and Jonathan Loh, who developed a quantitative measure of trends in LD (Harmon & Loh, 2010), concluded that globally LD has declined by 20% from 1970 to 2005. Of the world's six regions, the sharpest declines by far in LD have occurred in the Americas and Australia. The top 16 languages spoken worldwide increased their share of speakers among the world's population from 45% in 1970 to some 57% in 2005.

Many linguists support the maintenance of LD because the more languages we have, the more data and the more varied linguistic data we can access. They study specific characteristics of particular languages, comparing what building blocks languages utilize and how these can be put together. This reflects human resources and ways of functioning that cognitive linguists and psychologists are interested in. Debates about linguistic universals ask what all languages, and our human language faculty, might

have in common; and whether and how human languages differ from other communication systems, including those of other animals. Researchers also use this knowledge to develop machine-human interaction and construct automatic translation programs. Many also see each language as reflecting the unique worldview of the people who have developed it. Sign language researchers have shown that sign language users, especially those in the Deaf community, develop capacities that hearing people have not developed, for instance in relation to their vision. For all this research, LD is a prerequisite.

Researchers from other areas are also interested in LD. The genus *Homo* may have been on earth for up to seven million years. *Homo habilis* may have been able to speak in some fashion even two million years ago, but genetic science suggests that all people living today (*Homo sapiens*) are descended from a small population living in Africa some 150,000 years ago. Our present-day LD reflects this. Many find it puzzling that so much LD has been able to develop in such a short period. There must have been powerful diversifying mechanisms at work—but these have worked unevenly. If Britain had the same ratio of spoken languages to inhabitants as Cameroon, or the United States the same as Papua New Guinea, Britain would have 1,250 native languages and the United States nearly 60,000. Western countries are indeed linguistically poor: Europe has only 239 living spoken languages. Just as Europe is both genetically and biologically the world's most homogeneous part, Europe is also the poorest one in LD, provided that we discount recent immigrants. Geneticists, archaeologists, anthropologists, geographers, historians, and others compare the differences between languages, the migration patterns suggested by linguistic data, and so on, with patterns and dates suggested by results in their own areas of research. Often, these diverse genetic, archaeological, and linguistic data agree, while radiocarbon dating sometimes may give a different result. Several multidisciplinary areas of study are emerging from this need to consider theories and data from what was formerly seen as several separate disciplines. For all these new disciplines, the study of LD may yield central or at least complementary insights. Thus, transdisciplinarity is enabled by the maintenance of LD.

A central reason for the importance of the maintenance of LD is that there is a correlational relationship, and most probably also a causal one, between biodiversity and linguistic (and cultural) diversity. Where there is a high degree of biodiversity (many

species of plants, animals, and other biological organisms), there are usually also many languages, and vice versa: There are few languages in biodiversity-wise poor areas. Traditional ecological knowledge and practices often make Indigenous/tribal peoples, minorities, and local communities highly skilled and respectful stewards of the ecosystems in greatest need of protection. Local, minority, and Indigenous languages are repositories and means of transmission of this knowledge and the related social behaviors, practices, and innovations. The relationship between diversities is most probably also causal, a coevolution, where biodiversity in the various ecosystems and humans through their languages and cultures have mutually influenced each other (see Harmon & Loh, 2010). The various ways that different peoples influence their environments were and are filtered through their cultural patterns, including their languages. Much of the knowledge about (necessary) elements of integrated ecosystems and the relations between these elements and about how to maintain biodiversity is encoded in small Indigenous/tribal and local languages. To maintain the detailed knowledge encoded in small Indigenous/tribal languages about the complexities of biodiversity and how to manage ecosystems sustainably, the languages and cultures need to have better conditions. They need to be transmitted from one generation to the next, in families and through schools. If global LD is not to suffer irreparable attrition as a result of today's assimilationist education, major changes are needed in educational language policy (see Skutnabb-Kangas & Dunbar, 2010), showing that most Indigenous education fulfills the criteria for genocide in two of the five definitions of genocide in the United Nations' 1948 International Convention on the Prevention and Punishment of the Crime of Genocide. Subtractive dominant-language-medium education has been shown by solid empirical research to be educationally the worst alternative for Indigenous, tribal, minority, and minoritized children (any arguments promoting this kind of education are political, not scientific); in addition, it leads to diminishing LD. From this perspective, a central necessary change, also advocated by UNESCO, is mother tongue-based multilingual education that respects linguistic human rights.

But the disappearance of languages from the whole world is today continuing at an alarming pace. External forces are dispossessing traditional peoples of their lands, resources, and lifestyles; forcing them to migrate or subsist in highly degraded environments; crushing their cultural traditions or

ability to maintain them; or coercing them into linguistic assimilation and abandonment of ancestral languages. People who lose their linguistic and cultural identity may lose an essential element in a social process that commonly teaches respect for nature and understanding of the natural environment and its processes. Forcing this cultural and linguistic conversion on Indigenous and other traditional peoples not only violates their human rights but also undermines the health of the world's ecosystems and the goals of nature conservation. It can be argued that in any crisis, uniformity is the worst way to respond; diversity is resilience. This includes LD.

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See also Diversity; Identity and Identity Politics; Multiculturalism; Rights: Children, Parents, and Community

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LITERACY AND THE NEW LITERACY STUDIES

New Literacy Studies (NLS) is a research approach that has emerged and played out in the past few decades, focusing on the historical, cultural, social,

cognitive, and institutional dimensions of reading and writing. The approach takes literacy out of the mind as a matter for psychology alone, and out of the classroom as simply a matter of instruction, turning away, at first, from a preoccupation with pedagogy and curriculum in educational settings, and away from acquisition theories of literacy, toward use theories (or accounts of what people do with written communication and what texts do in social organization). When NLS researchers turn back to questions of instruction and acquisition in education institutions, they do so with a sense of the social dimensions of acquisition and learning that go beyond those of individual minds acquiring “basic skills.” NLS researchers claim that literacy always happens as part of particular social practices that are shaped by social institutions and power relations among and between groups of people, with the result that some literacy practices are more dominant, visible, and influential than others in social settings where unequal contests over resources and power take place. This entry discusses the evolution of NLS as the study of literacy as situated social practices, through research in a variety of contexts, along with attention to the growing emphasis on global interactivity resulting from new forms of electronic media that allow “real time” communication across spaces and settings.

NLS researchers take it that we can’t make sense of or intervene in people’s experiences of literacy if we see literacy as “simply reading and writing,” in the sense of the activity being some kind of mental process to do with encoding and decoding print, which is acquired as a tool, skill, or technology that, once acquired, can be applied to any task that requires reading or writing. Instead, the NLS approach sees the ways in which people use and value reading and writing as themselves rooted in conceptions of knowledge, identity, and being, varying across groups of people as well as in different settings, and capable of change over time. Reading and writing are always about reading and writing something, in specific ways as part of a specific activity. When people engage in particular activities, they draw on background know-how, habits, and dispositions that often are not based on or explicitly communicated as beliefs or rules, are passed on through interaction and activity, are acquired and not explicitly learned or taught, but which nonetheless characterize our interactions with things and people. How people read and write, what they read and write, what effects their reading and

writing have, and whether their skills and practices transfer well from one setting to another (e.g., for children, from home to school and back) depend in very important ways on what they are “up to” when they are reading and/or writing and on how these practices are socially valued or discounted.

The turn toward explanatory social theory of various kinds in the study of literacy dates back to the 1980s and reflects researchers’ openness to social science influences from linguistics, historical studies, anthropology, psychology, philosophy, and sociology, including, more specifically, ethnomethodology, conversation analysis, and the ethnography of speaking from sociolinguistics; sociohistorical psychology and approaches to the study of cognition as situated and social; cultural models theory; cognitive linguistics; the sociology of science and technology studies; modern composition theory; modern developments in sociology and poststructuralist and postmodern social theory, centered on theories of “discourse” and “social practices,” particularly the influences of Pierre Bourdieu, Michel Foucault, Jacques Derrida, and Ludwig Wittgenstein.

First-Generation NLS

Key influences in the first phase of NLS in the early 1980s came from research by sociocultural psychologists, sociolinguists, and anthropologists. Sylvia Scribner and Michael Cole (*The Psychology of Literacy*, 1981) studied the cognitive consequences of literacy in a setting, Liberia, where three different scripts and literacy traditions were present, including school literacy in English, a religious literacy in Arabic script, and an indigenous script used by some individuals for letter writing and record keeping in the indigenous language. Because there were these three scripts with different histories and uses, the researchers were able to distinguish between “school effects” and “literacy effects.” They found that cognitive skills associated with literacy varied dramatically depending on whether people’s literacy experiences were school, religious, or community activities. They argued that literacy was always constituted within socially organized practices. The nature of these practices, including the scripts, languages, and media used, would determine the balance of skills and the consequences associated with literacy. Rather than seeing literacy as a set of portable, decontextualized information processing skills that individuals apply, this research reframed literacy as a set of socially organized practices (conceptually

parallel to religious practices, child-rearing practices, etc.) in which individuals engage.

Sociolinguistic research into literacy, language, and learning in southeastern communities in the United States by Shirley Heath in *Ways With Words* (1983) questioned why Black students were failing in the recently desegregated schools, and she contrasted their language and literacy socialization in community settings with children of White mill workers in a neighboring community as well as with middle-class children in the same town. Heath's work made the case that there are multiple ways of taking and making meaning in reading and writing practices, and the selection of one of those ways as the standard, or as normative in school and in formal institutions, means that, for people whose ways are different from the norm, there is an ongoing struggle to accommodate to those of the standard. In her study of literacy in these settings, Heath focused empirically on literacy events, which she described as the occasions in which written language was integral to the nature of participants' interactions and their interpretive processes and strategies. Literacy events were characterized by particular blends of text, talk, distribution of action, and turn taking in communication that was community specific and consistent with patterns of child rearing that contrasted markedly across the three communities. She rejected the often made emphasis on a distinction between literacy and orality because it placed undue importance on the medium of communication at the expense of its social purpose. What counted in effective communication was not a generalized competence (e.g., being able to "speak English" or "code and decode letters") but a situated, communicative competence embedded in acquired, "deep" cultural knowledge and learned models of using situated language in specific ways drawing on varying histories and different rules for socially interacting, for sharing knowledge and opinions, and for reading and writing.

Brian Street's anthropological research in an Iranian village, presented in *Literacy in Theory and Practice* (1984), initiated an attack against previously influential "great divide" theories of literacy that claimed fundamental and far-reaching cognitive differences between literate and nonliterate societies and individuals and that treated literacy as a neutral technology with a singular, predictable impact on the individual and society. Rather, literacy is a social process, in which particular socially constructed technologies are used within particular institutional

frameworks for specific social purposes. Street drew an influential distinction between what he called the autonomous model of literacy, associated with "great divide" theories, and an ideological model of literacy. The ostensibly politically "neutral" autonomous model of literacy relies on a rhetoric of individual and social developmentalism that celebrates certain mainstream Western literacy practices as universally normative.

Street's ideological model joined a social analysis of power relations as well as language and literacy ideologies to an orientation to the cultural production of meaning and values in particular settings. He showed that there were no empirical grounds for assuming an automatic, causal, or universal relationship between literacy and social development of various kinds; rather, different histories of exposure to certain ways of communicating, valuing, reading, and writing yielded different forms of reading and writing as practice. Such conceptions and practices of reading and writing evolve and are enacted in contexts involving particular relations and structures of power, values, and beliefs. The consequences that ensue from literacy are therefore neither "neutral" nor effects of literacy on its own but are variable, depending on the nature of the myriad literacy activities that play out in social life and that are integral components of larger social practices. The "literacy bits" cannot be studied as if they have effects of their own, separate from the larger social "goings-on" in which they are embedded. Street's work pointed to how literacy was "taken hold of" at a local level, to fit in and add to the existing communicative repertoire of indigenous people, rather than to change them or "modernize" them, as the "great divide" theorists had claimed would happen. His view was supported by detailed research studies by other NLS researchers in places such as Papua New Guinea and on a South Pacific atoll.

Ron and Suzanne Scollon's research (*Narrative, Literacy and Face in Interethnic Communication*, 1981) among the Athabaskan people of Canada and Alaska similarly made a related point that schooling as a special practice is not a neutral site. To take on the "essayist literacy" of Western schooling, Athabaskans are faced with challenges to their sense of identity and being, requiring them for example to take on ways of relating to intimates and non-intimates that differ from those with which they had grown up. In contributing to this debate, James Gee, in *Social Linguistics and Literacies* (1990), drew an influential distinction between the "primary

Discourse” and “secondary Discourses,” to distinguish between the ways of being, knowing, valuing, acting, speaking, and attitudes to writing that children inherited in their home environments and the secondary Discourses of social institutions, such as schools, that might be in accord or at variance with different groups of children’s primary Discourses. Learning to read and write as part of secondary Discourses required new forms of socialization for socially marginal children to those they brought with them to school.

Second-Generation NLS

A second generation of NLS in the 1990s and later, in a number of studies from Asia, Africa, United Kingdom, South and North America, and Australia, drew on the methodologies and theoretical constructs of those earlier studies, concentrating on close accounts of how reading and writing were embedded in social practices in local contexts. David Barton and Mary Hamilton (*Local Literacies*, 1998), as one influential example, observed community members in Lancaster, England, and asked them to reflect on their literacy practices. These researchers pointed out, with regard to Heath’s work, that, important as family practices are for children’s literacy development, these practices take place in larger community contexts that influence family activities. The researchers drew a distinction between dominant (institutionalized) and vernacular (self-generated, everyday) literacies. Vernacular knowledge was seen to be local, procedural, and minutely detailed. Literacy was not an explicit focus of everyday activities, but literacy elements were an implicit part of most activities and were used to get things done, including learning a martial art, paying the bills, organizing a musical event, or finding out about local news. When questioned about them, people did not always regard their vernacular literacies as real reading or real writing as they were embedded in other activities, such as shopping, writing to a relative, paying an invoice, or applying for something or other, and did not carry the same status as more conventionally recognized literacy activities such as the reading of literature or “school literacy.” Indeed, some vernacular literacies were deliberately hidden, because they were private or oppositional, including secret notes and letters of love, comics, and fanzines. The researchers concluded that much talk in everyday life that they studied was in fact talk about texts or shaped by documents or textual

practices. They pointed to the extent to which texts change social interaction in ways that had not formerly been widely noticed, in sociolinguistics or in sociological research, and emphasized that writing and writing artifacts were very much part of the “glue” of social life.

Mike Baynham’s (1995), *Literacy Practices*, similarly examined the way that Moroccan migrants in London shifted between the communicative modes of text and talk in social interaction among themselves, while assisting each other with language and literacy challenges. Bilingual talk around monolingual text in school and community settings is, indeed, characteristic of most multilingual social contexts. For example, Gregory and Williams’s *City Literacies* (2000), a study of literacy based on long-term ethnographic engagement with the Bangladeshi settlement in East London, United Kingdom, was notable for its emphasis on the interaction of home and school literacies in the learning lives of children.

Third-Generation NLS

More recent NLS research demonstrates a significant diversification of the range of topics and issues addressed. For example, there has been added attention to the media and modes of literacy, *media* referring to the material or “stuff” of literacy engagements, the artifacts and paraphernalia such as books, notices, walls, mobile phones, blackboards, and “smartboards”; modes referring to the various means of presentation, which, besides writing, include speech, image, gesture, sound, posture, combinations of these, and, also, silence. Such research attention is very timely, given the proliferation of multimedia writing that has accompanied the dramatic explosion of digital, electronic communication by way of computers, phones, tablets, and other devices linked to the Internet and using e-mail, websites, Skype, Twitter, Facebook, YouTube, and other communication and writing resources. As is well known, the technological developments associated with electronic media include the linking up of huge numbers of electronic devices across continents, allowing their users to communicate without substantial time lags, or in “real time.” This dramatic increase in global interactivity has led to an increase in the study of translocal and transcontextual literacy activities and practices. It is apparent that literacy is not just “placed” (or practiced locally) but is also mobile, moving electronically as well as with people, across borders and locales. The ways that

children and youths are encountering digital writing, design, and meaning making in nonschool contexts, as well as what this means for classroom engagements, is a major theme in recent NLS.

Attention to social diversity is also an increasing research focus, reflecting the dramatic increase in global interactivity in recent decades and changing the idea of local communities as homogeneous sites for language, literacy, and discourse. Migrants and mobile persons are a striking feature of the globalized world and raise particular questions for literacy, language, and education. While school-based standardized testing often labels youths from minority backgrounds as failing or at risk, NLS researchers examine the multilingual resources of both youths and adults from minority backgrounds, and the transnational or cross-border practices they engage in, involving both print and digital literacies. While classrooms have mostly stuck to maintaining clear borders between the languages and learnings of school and the out-of-school languages and literacy practices of bilingual youths, researchers such as Ofelia Garcia and Suresh Canagarajah have called for “translanguaging,” and situated literacies in the classroom, based on the argument that all literacy pedagogical approaches should be contextualized and start with the language and literacy resources that children bring to school. As they describe it, translanguaging is an approach to language and literacy that encourages teachers to foster the use of whatever resources are at hand, across languages, rather than to insist on maintaining strict boundaries between designated languages in their uses, in talk and in writing.

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See also Capital: Cultural, Symbolic, and Social; Discourse Analysis; Distributed Cognition; Linguistic Diversity; Vygotsky, Lev

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LITTLE COMMONWEALTH: HOMER LANE

An educationist and psychoanalyst, Homer Lane (1875–1925) became a leading figure in the New Education movement in the United Kingdom during the years preceding, and immediately following, the First World War. For some, he was a charismatic figure whose ideas offered the promise of educational transformation and who died a martyr. In the eyes of others, he was a dubious character who was guilty of infracting both social conventions and the law.

Born in Connecticut, after leaving school, he got a job delivering groceries. While so doing, a doctor sponsored him to take a course in Sloyd, at the Sloyd Training College at Boston. This was a system of manual education based on wood carving with origins in the work of the German educationist Friedrich Froebel. Advocates of Sloyd subscribed to the gospel of labor, the notion that manual work was redemptive and was preferable to learning from books. The doctor subsequently opened a high school, and Lane taught a Sloyd class there from 1900.

Following a post teaching in Detroit, Lane became superintendent of playgrounds in Detroit, and in 1907, he became director of the Solvay Guild, a type of settlement house. While still teaching in Detroit, he was invited to teach manual training in the Hannah Schloss Memorial Building, a Jewish settlement house. There, he introduced self-government to

the class by forming a club that organized activities of various sorts. Through his connection to a member of the committee that ran the Hannah Schloss, Lane was appointed in 1907 as superintendent to The Boy's Home and d'Arcampbell Association, a probation hostel for school-age delinquents, which—due to his efforts—was moved to a farm in a rural setting where it was first renamed the Ford and subsequently the Boy's Republic.

By this stage in his career, Lane had experience of, and had formulated the main elements of, the education philosophy for which he later became renowned. These were developed in his work with delinquents, and principal among them was the belief that instead of external coercion, they were to be educated by a version of Jean-Jacques Rousseau's discipline of consequences. Lane arranged experiences for the boys that helped them adopt, of their own volition, the line of conduct he wished them to follow. The name adopted by the last institution in which he worked in the United States, the Boy's Republic, signifies that to a large extent the structured experiences Lane organized could be subsumed under the label of self-government. The Boy's Republic had a constitution complete with legislative, executive, and judicial branches. Added to self-government was the provision of manual labor of a rural and agricultural nature, which formed another key element in Lane's educational thought. This approach was by no means unique either in Europe or in the United States during this period. The affinities between the practices of the Junior Republic founded by William Reuben "Daddy" George (1866–1936) and Lane's were several. Curiously, Lane claimed not to have heard of George's work before he established his Boy's Republic, despite the existence of several Junior Republics based on George's model and a book written by George outlining his practices.

Attracted by accounts of George's work, an English aristocrat, George Montagu (1874–1962), who wanted to establish a similar institution in England, visited George's Junior Republic in 1911 and the Boy's Republic also. In 1913, the committee that had been established to oversee Montagu's institution appointed Lane to head it; it catered mainly for delinquent boys and girls, and was located in a rural setting in Dorset in Southern England, and it bore the name "the Little Commonwealth." Lane was to remain in charge of the Little Commonwealth until 1918, when allegations were made by two of the girls there that Lane had had "immoral relations"

with them. Gradually, some members of the Little Commonwealth committee lost faith in Lane, and the accusations of misconduct in an already hostile social and economic environment was sufficient to bring about its closure.

During the years when Lane was superintendent at the Little Commonwealth, he gave a number of talks on his methods and found an attentive audience in the New Education movement, which was just taking organizational form when he arrived in England. Among the organizations that were part of the movement were the Montessori Society and the New Ideals in Education organization, out of which the former emerged, but Lane did not publish anything substantial on his educational beliefs and practices during his lifetime. An edited collection of talks he gave after the closure of the Little Commonwealth was published posthumously in 1928 as *Talks to Parents and Teachers* and the other main source of his educational thought is an account titled, *Homer Lane and the Little Commonwealth* (1928) written by Elsie Bazeley, who worked there for two years.

In addition to the ideas formulated in the early stage of his career, Lane added coeducation, though he admitted it was difficult to manage especially during periods of recreation, which he held should not be organized. Few schools in England, let alone reformatories, were coeducational at this time, so this was a major innovation. In line with Johann Heinrich Pestalozzi's thought, with which he was familiar, Lane stressed that his approach was based on love for the children and adolescents and that "being on their side" was at its center. Rather than view the residents of the Little Commonwealth as citizens, Lane attempted to create the affective relationships more characteristic of a family than a self-governing community. Although his methods were widely hailed as successful in reforming delinquents, he failed to persuade many of the desirability of compulsory schooling and the need for religious education.

During the course of the investigations into the accusations against him of sexual impropriety in 1918, Lane presented a paper to the Little Commonwealth committee in which he outlined the psychological theory on which his educational practices were based. This was an idiosyncratic reading of Sigmund Freud that led him to claim that he was a pioneer in psychoanalytic education and also to present a disquisition on the role of the unconscious, the libido, and the process of sublimation.

In this paper, he claimed that he had been in error in thinking that the transference of the pupils' libidos to the Commonwealth community could occur without them first being transferred to him. That the latter had occurred was the reason he gave for the damaging allegations against him.

Following the closure of the Little Commonwealth, Lane practiced as a psychoanalytic therapist. The talks he gave in this period that were published focused mainly on child development together with some reflections on his experiences at the Little Commonwealth under the heading, "On the Self-Determination of Little People." A persistent theme throughout this text is the role and value of play in child development.

In 1925, Lane was tried for breaking the law regarding the registration of aliens. At his trial, evidence was presented of his having had sexual relations with some of his "pupils," as his patients were called, and Lane agreed to leave the country. He died in Paris a few months later regarded by many as a Christlike figure who had been hounded to death by the British authorities. His image as a charismatic martyr was mainly perpetuated in the New Education Movement in private schools by radicals such as A. S. Neill, the founder of Summerhill, and by J. H. Simpson who introduced self-government while he was head of Rendcomb College.

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See also Freud, Sigmund; Froebel, Friedrich; Neill, A. S., and Summerhill; Pestalozzi, Johann H.; Progressive Education and Its Critics; Rousseau, Jean-Jacques

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LOCKE, JOHN

The English philosopher John Locke (1632–1704) published the modestly titled *Some Thoughts Concerning Education* in 1693. The text, Locke's most obvious contribution to the philosophy of education, was based on letters written by Locke in 1684 to his friends Mr. and Mrs. Edward Clark, who had requested his advice on raising their young son. Locke was by then an experienced tutor and was able to provide a great deal of practical advice in the physical and moral care of the child, in addition to suggesting a suitable curriculum. *Thoughts* focuses for the most part on the physical care and moral development of the child and includes an academic curriculum almost as an afterthought. The text, in keeping with its origin, focuses on one particular child, a child who was to become a gentleman. It is therefore best understood as a particular application of a general educational theory that is established not only in *Thoughts* but also in two other texts written in a very different style. One of these is the *Essay Concerning Human Understanding*, in which Locke sets out to uncover the origin of our knowledge and ideas. The other text, originally intended as the longest chapter of a revision of the *Essay* but published posthumously, is the *Conduct of the Understanding*. The *Conduct* acts as a link between the other two, guiding an autodidact adult in how to improve both reasoning and ability to make informed judgments. This entry traces Lockean educational theory through these three texts.

Essay Concerning Human Understanding

In the *Essay Concerning Human Understanding*, Locke rejects the concept of innate ideas and seeks to explain how it is possible for humans to gain all the knowledge they have purely through empirical experiences of the world. People mistakenly believe certain ideas to be innate, simply because they cannot remember learning them. They therefore conclude that God must have imprinted these ideas on their minds and regard them as unquestionably true. In fact, Locke famously claims, children are born *tabula rasa* (blank slates), and all of our knowledge is traceable to our experiences. There is no "simple idea" in the mind ("yellow," "hardness," "pain," etc.) that

has not had its origin in experience; complex ideas, according to Locke, are formed by the combination of simple ideas.

However, it is best not to regard a Lockean education primarily as an attempt to impart knowledge, since Locke grants the honorific “knowledge” very sparingly. *Intuitive* knowledge is the perception of the immediate agreement or disagreement of ideas; for example, that black is not white. This is the most certain and clearest form of knowledge. *Demonstrative* knowledge is the perception of the agreement or disagreement of ideas, but via one or more intervening proofs, as may happen with a mathematical equation. The archetypal form of demonstrative knowledge is mathematics. Mathematics, therefore has an important role to play in the child’s curriculum. In the *Conduct*, Locke also recommends that adults study mathematics to improve their reasoning skills.

The vast majority of what we think of as knowledge Locke would refer to as “judgment.” Judgment consists in assessing the probability of a proposition’s being true. So, for example, a mathematician may have demonstrative knowledge that the angles of a triangle add up to 180 degrees. A student who does not understand the proof but believes the proposition to be true based on the mathematician’s expertise does not have knowledge but has instead made a judgment. In this instance, Locke might encourage the student to understand the proof for himself or herself and thus gain knowledge. However, this will not be possible in other fields of enquiry. Subjects such as history, geography, and science require their students to assess the likelihood of propositions being true. A large part of a Lockean education therefore consists not in increasing the stock of knowledge of students but in developing their judgment.

Locke argues that much of our understanding is formed by the connections between ideas in our minds, or rather the *associations* between them. Some associations between ideas are “natural”: They reflect some connection between the ideas, such as *left* and *right*; or they reflect some relationship in the natural world, such as that between fire and heat. Other connections between ideas arise through custom. Often, this can be useful. For example, a musician associates a series of notes in a song and is therefore better able to remember them and to perform well. However, “unnatural” connections between ideas can also be damaging. If a child, under the influence of his nurse, comes

to associate darkness with goblins and sprites, he may become permanently afraid of the dark. There are several applications for this in a Lockean education. First, the curriculum can be arranged so that the “natural” associations between ideas are as easy to form as possible. Second, care must be taken that children should form no negative associations with education, as might occur if they are beaten for mistakes or if they take on tasks too difficult for them to complete.

Some Thoughts Concerning Education

Locke’s background as a physician qualified him to recommend measures to protect a child’s health, in addition to ensuring moral development and academic progress. Neither sons nor daughters are to be cosseted if they are to have good health. Children are not to be kept too warm; clothes are to be thin, as are shoes—the latter with the intention of letting in water. Children who are used to getting their feet wet will be unlikely to become ill as a result of an accidental wetting of the feet. Beds must not be too soft. Food is to be plain and simple, based more on bread than on meat (which should not be tasted until the age of three, and then no more than once per day). Locke also recommends that certain (overly sweet) fruits are to be avoided and that children should not be permitted alcohol. The child has appetites for unhealthy foods and excessive comforts, which could be damaging to health. These appetites must be controlled, and the child must become used to controlling them.

Locke presents this regimen as having benefits, not only to health but more important to the child’s character. A child who is used to mastering his own desires will become a virtuous adult. As the child grows and becomes more rational, the parents should become progressively less strict, until their relationship with the child is more like that of a friend. Until then, however, the child is answerable to the authority of the parents—it is the child’s duty to obey, and the duty of the parents to enforce obedience.

It is, however, important that parents are very sparing in their use of corporal punishment. Locke was frequently beaten as a child, as was the usual practice at Westminster School, and is clearly passionate in his view that such punishment is damaging and ineffective as a means to educate children either morally or academically. Strong associations between ideas, particularly those which are laid in

childhood, are difficult to reverse. Using pain to punish errors in academic work will cause the child to associate such work with physical pain and become more averse to it. More insidiously, the child will come to associate *punishment* with physical pain, when it would be far preferable for them to associate punishment with shame or disgrace. The only exception, where physical punishment must be used, is if the child is deliberately disobedient toward, or lies to, a parent. Then, he is to be punished until he obeys, even if it takes several whippings. This is to avoid a loss of parental authority that would ultimately damage the child.

Besides ensuring that the child is healthy and obedient, it is the parents' concern to settle their child into good habits that will continue into adulthood. Locke argues that the development of good manners and good breeding is best achieved by keeping children exclusively in the company of good people whom children can imitate. As much as possible, the child is to remain in his parents' company, kept away from the company of servants, and educated at home, away from the unpredictable influence of schoolboys. The child's earliest education, then, lies in the imitation of his parents and tutor.

The first *academic* education a child embarks on is learning to read. Locke emphasizes that the child must not regard reading as a task pushed on him. Locke believes it possible that children may be taught to read without perceiving the process as anything but a game. This is far preferable to the child's being forced to the activity of reading, and coming to associate it with feelings of boredom or frustration, which may affect the child's attitudes to learning later in life.

Once the child is fluent in the English language, he is to begin French, gaining fluency rapidly by speaking nothing but French with his tutor. A year or two later, he will proceed to Latin, which is to be taught in the same way. The tutor is to teach the child's other subjects (arithmetic, geography, chronology, history, and geometry) in French or in Latin, thus teaching the language and the subject simultaneously. To preserve the child's fluency in English, Locke recommends that the child's mother or some other suitable person has the child read English aloud to them every day, suggesting that passages from scripture would be suitable for the purpose. Locke allows, however, that the child should learn to translate Latin into English in order to exercise his writing skills.

Locke's approach is distinctive in that it does not involve the teaching of grammar, even in the case of

Latin. Locke regards the study of grammar as difficult and unpleasant for children and unnecessary to achieve fluency. Additionally, Locke considers that particle words, such as *but*, are impossible to translate, as the equivalents in French and Latin (*mais* and *sed*) have different collections of significations. Therefore, grammar, although an interesting study for adults, is inappropriate for children.

As the fuller curriculum is introduced, geography is the recommended starting point, since its study involves simply observation and memory. Then arithmetic is introduced, as the easiest form of abstract reasoning. Once the child understands addition and subtraction, his skills are immediately applied back to geography by learning longitude and latitude, followed by map reading. The constellations are then learned, both with reference to the maps and to the night sky; and the Copernican system is explained. Geometry is studied once the child has the familiarity with the globes described above. The recommended text is the first six books of Euclid. Locke does not explicitly state, but it would seem to follow, that the child's education thus far has prepared the child for a more abstract study of shapes. Chronology is taught alongside geography, and before history, so that the child is first familiar with the sequence of different eras, and later adds in richer historical details.

In summary, mathematics is given a key role, maximizing the child's (necessarily meager) stock of demonstrative knowledge. Geography is granted a corresponding role, and the curriculum zigzags between subjects that rely on empirical investigation (primarily geography) and those that rely on reflection (mathematics), encouraging the development of abstract ideas. With every new addition to the curriculum, Locke encourages the tutor to

give them first one simple idea, and see that they take it right, and perfectly comprehend it before you go any farther, and then add some other simple idea which lies next in your way to what you aim at, and so proceeding by gentle and insensible steps, children without confusion and amazement will have their understandings opened and their thoughts extended farther than could have been expected. (*Some Thoughts Concerning Education*, § 180)

The ideas presented are to be as closely related to one another as possible, so that the child can easily comprehend the relations between them in as few steps as possible. It is therefore unsurprising

that the Lockean curriculum does not include the study of syllogistic reasoning, despite its being a commonplace part of school curricula at the time. Locke disapproves of its use on the grounds that it adds unnecessary steps to the reasoning process, thus making the conclusions less certain. For example, a woman who has recently had a fever and is told that it is likely to rain can see the danger of going outside in thin clothing. Her inability to arrange the argument in syllogistic terms does not affect her reasoning, and were she to attempt to do so, the line of reasoning might become less clear to her.

The Conduct of the Understanding

The Conduct of the Understanding, published in 1706, two years after Locke's death, complements and continues the work of *Some Thoughts Concerning Education*. Since Locke now addresses independent adults, his concerns have altered. Adults are no longer "blank slates" but have developed understandings, which are likely to have developed flaws. The task of the *Conduct* is to guide these adults in how to think clearly and rationally and how to improve their judgment and inform their decisions.

The *Conduct* therefore draws the reader's attention to the many and various flaws that may be present in their reasoning. Some people, we are told, allow others to do their reasoning for them, because they are too lazy to reason for themselves; others allow their emotions to overcome their reason. Locke's readers are asked to examine themselves for any prejudices they may have that might affect their judgment. They must reflect carefully on their principles, to see whether they can truly be relied on.

The ideal is for them to become as epistemically self-reliant as possible. They can gain knowledge by reading, but only if they have assimilated the ideas presented in the book into their own understanding. Locke is firm in the conviction that the ability to repeat the ideas of others does not constitute the possession of knowledge.

However, the reader's self-reliance cannot amount to full independence. They must still seek out other people to inform themselves. Otherwise, they will be guilty of another flaw in reasoning:

Some men of study and thought, that reason right and are lovers of truth, do make no great advances

in their discoveries of it . . . they are very often mistaken in their judgments: the reason whereof is, they converse but with one sort of men, they read but one sort of books, they will not come into the hearing of but one sort of notions. (*Conduct*, § III)

Therefore, although Locke does not recommend any formal course of study to adults, he does encourage them to commit themselves to broad general reading and also to conversation with persons with "notions" different from their own: different opinions and different areas of expertise. By engaging with different opinions, Locke hopes that the readers of the *Conduct* might be able to counterbalance their own prejudices, gaining a more balanced view on political and religious discussions. By ensuring that they converse with people with different expertise, they expose themselves to a greater variety of ideas and give their reasoning skills more exercise. Ultimately the aim of the *Conduct* is to further the goal of a Lockean education: A virtuous adult who can reason clearly and well.

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See also Behaviorism; Moral Education; Postpositivism; Spectator Theory of Knowledge

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LOOSE COUPLING

Introduced in educational contexts by Karl Weick (1976), the concept of "loose coupling" is widely used in education research to describe the weak

connection between classroom practices, administrative goals, and the environment of education organizations. The concept captures how the core of education—what and how children learn—occurs in a relatively isolated classroom, shielded from outside intrusion or oversight. In contrast, some organizations, and some natural systems, have parts that are tightly coupled. This entry discusses the reasons why loose coupling has characterized schools, the impact that loosely coupled dimensions of schools have on efforts to reform schools, and how changes in education have challenged the idea of loose coupling.

The concept of loose coupling has advanced our understanding of the limitations of school reforms, particularly when they fail to produce meaningful structural or pedagogical change (in a loosely coupled system, reforms introduced at one location may have little influence in other parts of the system). These analyses are often situated within a theoretical framework known as New Institutionalism.

Loose coupling is not a function of shirking responsibility or a consequence of the moral failing of school leaders; rather, it is a natural consequence of the high degree of uncertainty surrounding education technologies (e.g., “best practices”) and the inability of schools to control their “inputs” (e.g., student aptitude) and also of the multiple demands that are routinely imposed onto schools, including the inclusion of noneducational goals and calls to accommodate differences (e.g., multiple intelligences). Factors such as these give rise to coordination challenges for schools, in part because they often present themselves from different parts of the environment and may contradict one another or be based on limited empirical support. Indeed, it is hard to imagine another type of institution that must accommodate *and* retain such a diverse clientele, balance competing beliefs about its organizational goals, be accountable to a wide spectrum of government and special interest groups, and meet or exceed external standards of excellence. These conditions make organizations such as schools conceptually and structurally different from more “tightly coupled” organizations that operate with a degree of control and goal clarity amenable to inspection and outcome-based processes.

A variety of practices and forms adopted by schools foster loose coupling, including adhering to acceptable institutional scripts (e.g., hiring credentialed staff), avoiding performance indicators that may expose irregularities (e.g., standardized

tests), and adopting vague and expansive language to describe organizational activities such as “social development” and “emotional intelligence.” Practices such as dividing children up into age-defined grades, offering courses such as math and science, and institutionalizing authority relations between students and teachers also facilitate loose coupling. In short, loose coupling allows some parts of schooling to express themselves according to their own logic, absorb failures or pressures for change, and avoid close monitoring of their activities.

In the 1970s, these insights emerged in a climate that placed few demands on education systems to demonstrate their competency to their constituents and at a time of limited alternatives such as charter or private schools. Instead, the public education sector was marked by increased accessibility and accommodation, evidenced by waves of institution building, curriculum expansion, and equity initiatives. Such sweeping expansion led some researchers to liken schools to shopping malls since both strive to please clients through product expansion and customer responsiveness. In this environment, researchers aptly observed the benefits of the loosely coupled form of schools and how this form garnered trust, warded off inspection, and allowed schools to accommodate a variety of mandates.

In recent years, however, the image of schools as “loosely coupled” has been challenged. First, the landscape of education has changed markedly. A variety of policy reforms have attempted to make schooling processes and outcomes more transparent. Standardized tests, teacher performance appraisals, mentoring programs for new teachers, a more expansive view of parents’ role, and policies such as those enacted by the No Child Left Behind Act have attempted to recouple curricular goals, classroom practices, and outcomes. This shift, together with the entry of new and sometimes competing school forms including charter schools and homeschooling, contributes to a new environment of K–12 schooling that has eclipsed the theoretical utility of the monolithic loosely coupled school.

Second, researchers have argued that some subjects and instructional goals (contrary to what is to be expected in loosely coupled settings) readily accommodate to outcome-based teaching and learning practices. Math and science, for example, enjoy a higher degree of consensus about their content and can be rationalized and held to less subjective outcome-based assessments. (In contrast, this does

not seem to be true in the cases of “inclusive” and “character” education initiatives.)

Third, empirical researchers have articulated how loose and tight coupling processes are understood and engaged by participants and how degrees of coupling are partly a function of the relative receptiveness of key school actors to various curricular or school policies. These responses are affected by how messages from the environment filter into schools, and how they are (re)interpreted through teachers’ or principals’ worldviews and professional biographies.

These newer developments do not undermine the utility of “loose coupling”; rather they attune researchers to the loosely and tightly coupled dimensions of education organizations. In so doing, questions are generated about the control an organization has over elements that are central to its existence—in this case students, the content of teaching and learning, the fundamental mission of schools, and the mechanisms by which we assess the efficacy of schooling organizations. Beyond control, awareness of loose coupling also forces us to separate aspects of organizations that can be rationalized and measured, from those that defy outcome assessment. Recognizing the loosely (and tightly) coupled configurations within organizations allows us to examine how such arrangements intersect with a variety of stakeholders, organizational features that are unique to schools or the organization of interest, and larger macroenvironmental forces.

Janice Aurini

See also Accountability and Standards-Based Reform; Curriculum, Construction and Evaluation of; Evidence-Based Policy and Practice; Quality of Education

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LYOTARD, JEAN-FRANÇOIS

Jean-François Lyotard (1924–1998) has sometimes been thought of as the postmodern philosopher *par excellence*. Whether or not postmodernism’s influence is now in decline, whether postmodernism was ever anything other than relativism and reductivism in the latest fashionable guise, whether the very term has become nothing more than another name to line up behind in order to denounce the world, the questions and issues that Lyotard raises should continue to challenge anyone who wants to think seriously about education. Yet the reception of Lyotard’s works among educators and philosophers has been decidedly mixed, and often, his ideas have circulated in bowdlerized form, in a manner that his sometimes provocative vocabulary may have invited but that is anathema to his real concerns. So where should one begin?

The Postmodern Condition

Anyone interested in Lyotard and education is likely to take *The Postmodern Condition: A Report on Knowledge* (1984) as a starting point. Commissioned by the Conseil des Universités of the Government of Quebec, this was surely not the kind of report they expected. In fact, it is not a work that Lyotard saw as one of his central philosophical texts, but it is one in which he introduces some of the key phrases with which his name is associated. Recognizing that modern ways of knowing are legitimated with reference to a grand justificatory metanarrative of some kind—perhaps a story of the epistemological doctrines of positivism or postpositivism, or of the dialectics of the Spirit, of the emancipation of the working subject, of humanity as the hero of liberty, of the creation of wealth—Lyotard defined the postmodern as an incredulity toward all such metanarratives. The incommensurability or partitions that Lyotard identifies between our various ways of knowing leads to the suggestion that what is needed is a pragmatics of language particulars, a diligent attention to the heterogeneity of our language such that we “gaze in wonderment at the diversity of discursive species” (p. 26). He explains this heterogeneity by way of Wittgenstein’s idea of the language game (there are countless activities we engage in, in which language plays a central but different role—giving orders, reporting on an event, describing, praying, telling jokes, asking, thanking, etc.).

Like Wittgenstein, Lyotard wants to emphasize the lack of systematicity or unified structure to language and thought and to stress the autonomy of different practices; but unlike Wittgenstein, he accentuates the separateness of these “islands of discourse.” This accentuation is central, as we shall see, to the ethical concerns that drive much of his thought.

Lyotard’s preoccupations in *The Postmodern Condition* are far from abstruse: not only does he respond with remarkable prescience to the profound implications of new technology for education, he also foregrounds the extent to which the social bond is composed of language “moves” (p. 11). It is in this context, and in respect of institutional structures we have become increasingly accustomed to work in, that he claims, “The true goal of the system, the reason it programs itself like a computer, is the optimization of the global relationship between input and output: performativity” (p. 11). Although derived from J. L. Austin’s notion of “the performative,” Lyotard’s adaptation gives the term overwhelmingly negative connotations: It connotes the jargon of efficiency and effectiveness, quality assurance, and inspection and accountability that has become so prominent in contemporary educational regimes, and it nicely evokes practices whose *raison d’être* sometimes appears increasingly to be the provision of data to fill spreadsheets. Whatever is undertaken must be justified in terms of an increase in productivity, measured in terms of a gain in time. Although there were undoubtedly antecedents to this key principle (say, in reductive utilitarian conceptions of education, perhaps in Ralph Tyler’s curriculum planning, or in B. F. Skinner’s influence on programmed learning), Lyotard was surely right to identify the increasing dominance of the computer on ways of thinking about education. Quality is quantified, binary thinking predominates, and the computer provides a new, powerful imagery not only for the mind itself but also for the conceptualization of teaching, learning, and knowledge itself. Moreover, Lyotard’s account of such change reveals a foresight regarding loss of trust—in teachers and in society more generally—that was to be documented in, for example, Onora O’Neill’s Reith Lectures (2002), over two decades later.

Sources of Critique and Innovation

So where does one turn for critique? Traditional theory is always vulnerable to incorporation into this system: its desire for unitary, totalizing truth

lends itself to the similarly totalizing practices of the system’s managers. So too is radical theory. The 1960s radicals of the university have not so much disappeared from the campus as they have been incorporated into the system: The more outrageous their publications, the more the citations, which is all to the good for the university’s research ratings. Through tolerating criticism, through “taking it on board,” the system effectively inoculates itself. Ultimately, criticism loses its theoretical and practical force, reduced to token protest or utopian hope.

Contrary to popular conceptions, though, science does not develop simply by means of linear efficiency. It proceeds rather by inventing counterexamples, by looking for “paradox” and legitimizing it with new rules in the game of reasoning. This is not, it should be emphasized, just a matter of innovation. Innovation can take place within the system and can in consequence strengthen it. In contrast, the break that occurs in response to paradox, with the invention of new rules in the game, is of the order of “paralogy.” This is a move in the pragmatics of knowledge, where it may be only after the event that the importance of the move is recognized. Lyotard wants to identify and draw some hope from a postmodern science that concerns itself with undecidables, with the limits of precise control, with conflicts characterized by incomplete information and “fractals,” with catastrophes and pragmatic paradoxes—examples to upset complacent positivist assumptions. Of the views of the several scientists he refers to, those of the eminent biologist Peter Medawar are indicative: Having ideas is a scientist’s highest achievement; there is no “scientific method”; a scientist is before anything else a person who tells stories, albeit stories that there is a duty to verify. Moreover, one of the major obstacles to the imaginative advancement of knowledge is precisely the division between the practitioners of science and the decision makers, especially those who provide the funds. This is a product not of science itself but rather of the socioeconomic system, and it is one in which misunderstanding of science plays an important part. Science itself is open. A statement is relevant if it generates ideas, new possibilities of thinking, and, sometimes, new game-rules.

The emphasis on a departure from rules or on the insufficiency of rules also plays a critical role in Lyotard’s conceptions of ethics. While this is a general preoccupation of his early work, it finds its fullest expression in *The Differend* (Lyotard, 1972). There Lyotard ponders examples, actual and imagined,

where judgment needs to be exercised against a background of disparate, conflicting sets of rules or social practices. Lyotard's most vivid illustrations involve occasions where different cultural values conflict, where no resolution is possible, but where a judgment must be made. Sometimes, different languages conflict, such that the process of translation is itself a poignant exercise in judgment. Yet such circumstances arise also in the course of ordinary human life, where, for example, a gifted musician must decide between the exacting demands of her career and her responsibilities to an ailing relative, or where a teacher faces conflicts between her own sense of what is most educationally beneficial for her students and the requirements of the examination system within whose jurisdiction she is working. In such cases, there is no rule or principle independent of these conflicting values to which the person can make appeal. Ultimately, she must decide.

The Limitations of Understanding and Knowledge

While Lyotard's work moves through different phases, it belongs for the most part to that more negative strand of poststructuralist discourse—deriving especially from Søren Kierkegaard and Emmanuel Levinas and also from Kant's Third Critique—where there is an emphasis on the limits of knowledge. Lyotard exploits two examples of this. His thematization of childhood throws emphasis on the ways in which childhood is *not* to be known: that is, our understanding, of our own childhood particularly, is compromised by anthropomorphism, progressively so the further back we go. This prompts the recognition that we come from origins that we cannot access or understand. Hence, any therapy overcommitted to the retrieval of experience will be doomed to distortion, just as forms of developmental psychology that tacitly presume the possibility of full knowledge risk doing violence to the child and, in the process, obscure the possibilities of professional understanding.

In parallel to this, there is Lyotard's somewhat shocking identification of "the jews," an expression that appears within inverted commas and in lower case to emphasize that it is not primarily actual Jews that he has in mind but rather that which cannot be included, without its destruction or, at least, distortion, within the dominant regime or within systematized modes of thought. The concept is introduced in a critique of the work of Martin Heidegger. Like

other poststructuralist writers, Lyotard recognizes his debt to Heidegger, but his attack is fierce: He targets not only Heidegger's complicity with Nazism but also a more pervasive, related exclusion or blindness within the master's philosophy itself. Some sense of Lyotard's preoccupations here can be gained if one thinks of the familiar failure of Holocaust films, where the attempt to represent the unspeakable ends up by containing it—say, within the terms of a Hollywood cinema experience. What needs to be understood, in contrast, is that the horror is "immemorial," and this is the important concept here: The imperative is paradoxically to remember that there are always things that cannot be remembered, or, put differently, that there is a necessary forgetting.

Implications for Curriculum and Educational Policy

The negativity in thought illustrated in the preceding paragraphs has its obvious bearing on notions of self-understanding and history, and hence on politics, but it implies something beyond this in relation to the ways that the content of the curriculum is to be understood. Thus, something has gone badly wrong where it is assumed that criteria must be specified exhaustively. By contrast, it encourages a sensitization of teacher and student to the fact that the terrain of the subject of study cannot be surveyed in its entirety but opens to possibilities not yet in view.

While the vision of educational institutions in the grip of performativity is somewhat bleak, Lyotard offers something other than a counsel for despair. The supposed emancipatory possibilities of revolutionary change are regarded as illusory, such that his vision is to be clearly differentiated from the "new sociology of knowledge" or from critical pedagogy. But hope is to be placed in a "minor politics"—that is, in the possibilities of responsible political action within the interstices of the system or at its edge, through a patient, mildly subversive attention to its weak points, with a view to fomenting more gradual and piecemeal change. This less grandiose, more practical aspiration, it turns out, accords well with the experience of many committed teachers and policymakers. It counters the knowing cynicism that often stymies responsible thought about educational policy and curriculum design. It also encourages receptiveness, on the part of the teacher and the student, to possibilities of thought and openings for practice that otherwise remain obscured by ideology,

whether the ideology of performativity in its various guises or that of emancipation.

It is a sad fact that some readers of *The Postmodern Condition* quite failed to see the irony in Lyotard's account of changes in knowledge, imagining that he was actually advocating the very changes against which he warned. It is also regrettable that more sophisticated readers have sometimes failed to see beyond the critique of performativity. What needs to be foregrounded, to counterbalance this, is Lyotard's subtle, imaginative, practical, and responsible vision of the possibilities of education.

Paul Standish

See also Heidegger, Martin; Kant, Immanuel; Positivism; Postmodernism; Postpositivism

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MACINTYRE, ALASDAIR

Alasdair MacIntyre (1929–) is a Scottish philosopher whose work, over a long career spent mostly in North American universities, has ranged over the philosophy of mind, epistemology and the philosophy of science, the philosophy of religion, and especially moral and political philosophy, in which he has been one of the most distinctive and influential voices of recent decades. His writings in these domains, no less than his specific thoughts on education, have been a major stimulus to many contemporary philosophers of education. This entry discusses his overall philosophical position before turning specifically to education.

MacIntyre's Philosophy

Though recognizably “analytical” in style, his writings—like those of other analytical philosophers influenced by G. W. F. Hegel, such as Charles Taylor and Richard Rorty—strongly emphasize the historical dimension of philosophical reflection and engage critically with Continental schools of thought, including phenomenology, hermeneutics, and poststructuralism. His own philosophical standpoint was for many years avowedly Marxist, before metamorphosing into a form of Aristotelianism that, as he later came to argue, is most satisfactorily retrieved and vindicated in Thomism (based on the thought of the mediaeval philosopher/theologian, St. Thomas Aquinas).

MacIntyre's key text, *After Virtue* (1981), has been a major reference point in contests between rival interpretations of the nature and fate of modernity, in the revival of virtue ethics, and in the educationally significant liberal–communitarian debate (an acerbic critic of liberalism, MacIntyre has been widely identified as a communitarian, an attribution that he himself has rejected). In this book, he contended that the Enlightenment project has failed; that the best efforts of characteristically modern, including utilitarian and Kantian, thinkers have not provided a coherent or rationally defensible basis for ethical and political action; that a groundless emotivism—embodied in the deceptive and self-deceived figures of the “aesthete,” the “manager,” and the “therapist”—is the default philosophy of the culture of so-called advanced societies; that Friedrich Nietzsche provides the most devastating diagnosis of this disordered culture and the most penetrating critique of its would-be philosophical justifications; and that this diagnosis and critique are unavoidable and unanswerable *unless* it should turn out that undeservedly discarded resources from our *premodern* past can be persuasively recovered. The constructive part of the argument of *After Virtue* is an attempt to show that such resources are indeed available in core insights of Aristotle's moral–political philosophy—insights that MacIntyre reconstructs through an account of virtue (*arête*) that he elaborates cumulatively in terms of “practice,” the “narrative unity of a life,” and “tradition.”

In MacIntyre's writings since the publication of *After Virtue*, two major concerns are identifiable.

First (especially in MacIntyre, 1988, 1990), he has sought to develop an account of rationality (again significant for education) that locates it in traditions of inquiry and argumentation embedded in the practices of communities more or less devoted to the cultivation and exercise of the intellectual and moral virtues. On this account, there is no tradition-independent means of justifying one tradition or of adjudicating between it and other rival traditions. Rather, each tradition encounters challenges and strains, internal and external, cumulating sometimes to crisis. Its claim to rationality is vindicated by its capacity retrospectively to narrate the series of adjustments and transformations through which it has surmounted such crises and by its ability to offer an account of why another rival tradition fails to surmount its besetting crises.

Second (especially in MacIntyre, 1999), he has developed a philosophical anthropology that highlights the vulnerability of human beings, arising not least from the kind of infancy proper to their specific kind of animality, and hence their dependence on each other within networks of giving and receiving. This anthropology is bound up with strong political and religious/theological commitments. MacIntyre's political philosophy, still as critical of capitalism as it was in his earlier Marxist phase, is notably hostile to the modern state, while being supportive of a politics of "local community." And both his emphasis on human vulnerability and his radical—even expressly utopian—ethico-political demands are linked with the affirmation of a theistic position in which humans' ultimate dependence is on a divine being. For MacIntyre, God is understood primarily within the Catholic form of Christianity to which he has given increasingly explicit commitment in his later work (MacIntyre, 2009a, is an historical outline and partial defense of "the Catholic philosophical tradition").

MacIntyre on Education

For MacIntyre (1998), what is required by the very nature of education is deeply incompatible with what prevails in the present economic, political, and cultural order; hence, his view that "education should be a preparation for constructive engagement in conflict" (p. 107). Well-educated students will take a questioning attitude toward that order and its dominant institutions, making them to a large extent unfit to participate compliantly and successfully in the larger societies to which they belong. But if

education takes an oppositional stance to the existing order, it has to do so on terms, dictated by this order, that are altogether uncongenial to its own nature—terms that assimilate it to a production model in which schools are judged on the basis of outputs, such as examination results, credentials, and relative placements on "league tables" (school performance rankings), achieved with the minimum of inputs and, hence, with maximal productivity. Like radical critics before him, then, MacIntyre faces—as he himself recognizes—what seems to be a vicious circle: to bring about the good society, a good education is needed; but conversely, such an education hardly seems possible unless the good society already exists. The fact that he does not countenance the totalizing response to this circle of a Plato or the kind of Trotskyite Marx to whom he was earlier drawn—nor even any systematic attempts at reform through the agency of national or transnational bodies—may seem to leave education in his eyes with no hope other than what may be kindled in the kind of small, marginalized communities invoked at the end of *After Virtue*. But it is clear in some subsequent writings that he sees education as something that can always be attempted in schools through concerted resistance by those committed to the cultivation of key virtues—who, despite their opposition to state designs, may strategically exploit state resources.

For all his radical dissent, the actual content that MacIntyre envisages for education seems close to traditional conceptions of a liberal education ("liberal" here connoting not individual freedom as trumping the common good but rather the character of certain forms of activity and knowledge as ends in themselves, freed from external or instrumental purpose). This content would include, for example (within an Anglophone setting), English and at least one other language and literature, a good deal of history, mathematics up to the differential calculus, and experimental and observational science. It would also include the visual arts, music, and various games and sports; some generic capabilities (e.g., for accurate and discriminating sensory perception and for storytelling); and some assorted skills (e.g., for car repair, wall building, and computer programming). By including skills of this type and by insisting that such an education should be provided by any decent modern polity to *all* students, irrespective of their parents' wealth or their own likely after-school occupations, MacIntyre departs from conceptions of liberal education that were complicit with various kinds of academic as well as socioeconomic

elitism. And he does so also by the way in which he can frame the content of education by reference to the above-mentioned conceptions, integral to his account of virtue, “practice,” the “narrative unity of a life,” and “tradition.”

For MacIntyre, school subjects can be seen as practices into which young people are to be initiated. As such, they are complexly patterned domains of activity that have evolved collaboratively and cumulatively, each with its own defining standards of excellence, answerability to which enables the achievement of its specific ends or goods. These goods comprise the outcomes aimed at by and through a practice *and* the capabilities that practitioners must acquire and exercise if they are reliably to achieve these outcomes—capabilities that include both competences specific to the practice *and* virtues of character (e.g., honesty, patience, courage, justice) that transcend any single practice though they are necessary in all of them. Thus defined, “practice” is instantiated in a wide and varied range of domains, including productive pursuits (e.g., farming or weaving) and—of special significance in education—areas of theoretical inquiry (e.g., physics or history), performing arts (e.g., dancing or flute playing), and games (e.g., soccer and chess). Practices are important to education not only because they offer a helpful way of conceiving different curricular areas but also because, by providing the most significant sites for the development and extension of human powers, including systematic acquisition of the virtues, they are essential in the constitution of a good and flourishing life for individuals and communities.

A fuller articulation of the good life, on MacIntyre’s account, will integrate the goods of practices with two other related elements, the *narrative unity of a life* and *tradition*, each of which has its own bearing on how education is to be understood and conducted. Narratively structured, a human life is not altogether dispersed into compartmentalized zones or discrete and discontinuous episodes but can be gathered in such a way that the question “what is the good of my life as a whole?” can, with greater or less explicitness, be meaningfully pursued. Preparing students for this pursuit is a central aim of education; he ascribes a special importance to literature and history in achieving this goal. Each of these subjects can in different ways disclose the narrative threading of human lives (with their peculiar weaving of chance, circumstance, character, and intention), thus helping students—albeit perhaps with greater focus and force only *after* their school

experience—to see the unfolding direction of *their own* lives as presenting them with the crucial ethical task that is rendered more difficult, but no less escapable, in the hugely fragmenting and dispersing conditions of late modernity. At a more communal level and in larger historical scope, narrative is shaped through tradition. Of course, each practice is the carrier of its own tradition, but MacIntyre has particularly in mind wider continuities of inquiry and argument about the overall human good embedded in different philosophical schools or religious communities.

MacIntyre’s insistence on this dense historical embedding underlies his critique of the modern secular university—which, under the guise of liberal impartiality, enforces its own exclusions—and his plea (in the concluding chapters of MacIntyre, 1990) for two other kinds of university, one inspired by Thomism and the other by Nietzschean genealogy. He envisages a scenario in which universities of these three kinds would further their own unabashedly partisan agendas in open conflict with each other. Constrained agreement within each one, he suggests, would offer a counter to the damaging fragmentation within the academy brought on by ever-increasing research-driven specialization. Furthermore, it would facilitate the kind of generalist undergraduate education that might equip students with a scientifically and mathematically informed understanding of the material universe (including the human brain), a historically informed understanding of the most important influences shaping who they are now in advanced modernity, and a capacity to engage with cultures very different from their own. As if all that were not enough, such constrained agreement would do all this in a way that would bring a *unifying* perspective to their studies (see also MacIntyre, 2006, 2009a, 2009b, in which the influence of Newman’s *The Idea of the University* is increasingly apparent). And *unconstrained disagreement between* all three might help bring some degree of resolution to the apparently inadjudicable disputes between opposing worldviews that mark the contemporary scene—or at least make the differences between these positions stand out with less distortion. Conducted on these terms, universities might contribute to the formation of what MacIntyre sees as indispensable to a healthy politics, that is to say the kind of “educated public” that is so signally lacking in contemporary societies (though it was prefigured, as he concedes, in such an Enlightenment society as 18th-century Scotland; MacIntyre, 1987).

Reception of MacIntyre's Thought in Contemporary Philosophy of Education

Given the trenchancy of MacIntyre's assaults on so many of the positions held in modern and contemporary philosophy—and especially on liberalism, conceived of as “an ideological disguise” for the power of the modern state and the allied international economy—it is hardly surprising that his own writings have attracted sharp criticism; and objections to his views on education have tended to mirror this wider criticism. He has been taken to be canvassing a restorationist project, with authoritarian as well as conservative import; the kinds of equality and solidarity that he is undeniably proposing are seen to threaten individual liberty as the most unquestionable value of modernity. It is along these lines that deep misgivings about his position have been voiced by prominent philosophers of education (e.g., Richard Smith and Kenneth Wain). Others, however, have seen his work as offering powerful conceptual resources for combating the colonization of education by market-driven pressures and for articulating an emancipatory, historically grounded countervision of education (e.g., Wilfred Carr and Daniel Vokey). Much of the response to his work has revolved around his conception of practice and key distinctions that it incorporates (between internal and external goods, between skills and virtues, and between practices themselves and the institutions that house them). Some philosophers of education (e.g., Joseph Dunne and Chris Higgins) have made much of claiming that educative teaching, and not only the diverse subject areas that are its concern, is *itself* a practice. The fact that MacIntyre himself has denied this claim has been the catalyst for considerable debate in philosophy of education over the past decade (Dunne & Hogan, 2004).

Joseph Dunne

See also Aquinas and Thomism; Aristotle; Communitarianism; Liberal Education: Overview; Liberalism; Newman, John Henry (Cardinal); Nietzsche, Friedrich; Virtue Ethics

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MAKIGUCHI, TSUNESABURO

Tsunesaburo Makiguchi (1871–1944) was a geographer, educator, and founder of a new religious movement in Japan. His first book, *Jinsei chirigaku* (*The Geography of Human Life*), was published in 1903, just months before the start of the Russo-Japanese War.

First as an elementary school teacher and later as a geography instructor at a teachers' training school, he developed an awareness of the importance of geography in school education. He considered it important for students to directly observe the relationships between people's lives and their environment in the local community. Furthermore, he emphasized the necessity to broaden students' horizons—from the local community to the national state and to the world.

Although he saw value in human life arising from the interaction between man and nature, he rejected geographical determinism, the view that human culture is determined by the physical environment rather than by social conditions, and posited a more

anthropocentric orientation. He accepted the current theories of social evolution and thought that civilizational progress would resolve many geographic challenges. In Parts 1 and 2 of *Geography*, for example, he noted that varying degrees of civilization were realized under similar geographic conditions.

In Part 3, he analyzed various aspects of human life in society, comprehensively treating economic geography, settlement geography, cultural geography, and political geography. His *Geography* is considered the first systematic and theoretically developed treatment of human geography written in Japan.

While recognizing that progress benefited “civilized” societies, he saw that the resulting power differential exposed other societies to colonial conquest or exploitation by the Western powers—a fate that had befallen many nations in Asia and which threatened Japan.

Against this background, he envisioned the future development of civilization. Although progress produced increasingly intense competition among nations, he suggested four stages or modes for this competition: military, political, economic, and humanitarian. Although he realized that economic competition was dominant in his time, he hoped that humanitarian competition would bring a transition from an ethos of competition to one of cooperation and coexistence.

Kyoju no togo chushin to shite no kyodoka kenkyu (Research Into Community Studies as the Integrating Focus of Instruction), published in 1912, maintained that the school curriculum should be reorganized around direct observation of the natural and social realities of the local community.

In 1930, one year before retiring as a primary school principal, Makiguchi published Parts 1 and 2 of *Soka kyoukugaku taikei* (The System of Value-Creating Pedagogy). Here, he identified pedagogy as the empirical study of rational and intentional human action, one of the applied sciences, which he contrasted with the pure (natural) sciences. He emphasized the need to collect and analyze data about educational experience in order to clarify the principles (methods) that would enable even inexperienced teachers to be successful in the classroom.

In Part 2, he examined the purpose of education. He considered guiding learners to lifetime happiness to be the purpose of education. This meant enabling learners to engage in a harmonious social life; thus, like Émile Durkheim, he advocated that pedagogy be rooted in sociology. Examining various modes of human existence, he asserted that when made

conscious of how people live in society, pupils will naturally understand the importance of cooperative action.

Part 3 (1931) dealt with the philosophy of value, a preoccupation of the intellectual class in Japan at the time. Makiguchi saw the capacity to create value as key to a happy life. Many contemporary philosophers considered abstract, spiritual values, such as truth, good, and beauty, superior to material values, such as economic well-being. Makiguchi viewed beauty, gain, and good as core forms of value and related them directly to daily life. Without economic stability, we can neither live independently nor help others; the value of gain is thus central for ordinary people. The value of beauty may be to help us recover from fatigue and stress in daily life; it enhances our lives, but in only a limited way. We cannot live happy lives without a stable and secure society, so the social value of good is superior to the individual value of gain.

Makiguchi distinguished truth from value. Truth or falsehood is determined by whether or not a proposition corresponds to fact. Value, in contrast, is an interaction between the evaluating subject and evaluated object. Although truth (knowledge) can have value, this derives from its usefulness for life.

Where some philosophers of the time considered the religious value of the sacred to be the ultimate value, Makiguchi saw the social role of religion as alleviating suffering in individuals and society; in individuals, this corresponds to the value of gain, on a societal level, to the value of good. Therefore, Makiguchi subsumed the abstract into concrete benefits for individuals and society.

In Part 4, Makiguchi proposed various educational reforms. To counter the harmful effects of the centralized educational system and its attendant nepotism, he proposed holding examinations to qualify elementary school principals, abolishing the school inspector system, giving greater autonomy for schools, and allowing the participation of parents in education. To enhance teaching skills, he called for a national educational research center and the reform of teacher training programs. To enhance efficient learning integrated with society, as well as to facilitate lifelong learning, he called for a half-day school system.

In Part 5, on educational methods, Makiguchi stated that the purpose of instruction is not to transfer knowledge but to guide and support the learning process, thus highlighting the questions of the best means for inspiring pupils' interest.

Part 6 dealt with teaching materials and curriculum; here Makiguchi reiterated his call to make study of the local community the core curriculum so as to arouse pupils' interest through direct observation of relationships between the environment and human life.

In 1928 or 1929, one or two years before the publication of *The System of Value-Creating Pedagogy*, Makiguchi became a convert to Nichiren Buddhism, through the efforts of a fellow school principal who was a lay believer of the Nichiren Shoshu sect. Before his conversion, Makiguchi had had varying degrees of contact with different religions, including Protestant Christianity, Zen Buddhism, and Nichirenism (Kokuchukai), but he did not commit fully to any of them because they were not compatible with his scientific and social thinking.

In Part 3 of *The System of Value-Creating Pedagogy*, he described four aspects of Nichiren Buddhism that he found especially convincing. First, there is a similarity between scientific methods and the Nichiren Buddhist method of weighing truth claims in Buddhist thought: employing the standards of actual proof, compatibility with reason, and documentary proof. Second, although many religions worship an anthropomorphic deity or Buddha figure, Nichiren Buddhism worships the Law (Dharma) as a means to becoming a Buddha. Third, the Buddhist Law is not incongruent with the laws and principles governing our social life. Fourth, the Buddhist injunction, "Rely on the law and not upon persons" is well suited to a modern constitutional dispensation under the rule of law. Makiguchi found these features to be compatible with his prior thinking. Where his interpretation is not consistent with traditional doctrines of Nichiren Shoshu, he gives priority to the logic of science.

In his 1936 essay, *On the Relationship Between Science and Religion*, the method of research he had earlier termed *applied science* was now referred to as the "science of value." Specifically, this means the effort to collect and integrate experiences of value creation to discover guiding principles by which people can attain lives of the greatest happiness. He proposed researching the efficacy of religion in value creation, asserting the existence of religion is justified only to the extent it provides the value of enabling people to enjoy happy lives.

In his 1937 essay, *Scientific and Supra-Religious Empirical Verification of the Methods of Value-Creating Education*, Makiguchi seeks to demonstrate that Nichiren Buddhism is the highest religion,

based on its ability to create positive value for those who uphold it and, conversely, negative value for those who reject or deny it.

In his last years, Makiguchi criticized the religious policies of the military regime on the basis of his assertion that Buddhism transcends national law. He was arrested as a "thought criminal"; in the record of his interrogation in July 1943 by the Special Higher Police, he denied the myth of the emperor's divine origins and declared the emperor to be an ordinary man who makes errors. He was sentenced to prison, where he died in 1944.

Koichi Miyata

See also Religious Education and Spirituality; Teaching, Concept and Models of; Values Education

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MANAGERIALISM

The term *managerialism* refers to systems of governance that involve the operation of market principles in the management of organizations. It refers in particular to the prioritization of private (for-profit) sector values of efficiency and productivity in the regulation of public sector organizations on the assumption that these private sector values are superior to those traditionally found in public

sector organizations. It gives primacy to management and endorses strong market-type accountability in public sector spending. The attainment of financial and other targets is a priority, and success in meeting targets is measured through public audits of the quality of service delivery. The development of quasi-markets for services is also a key goal; this operates as a further form of control through competition and public surveillance (Clarke, Gewirtz, & McLaughlin, 2000).

While it would be a mistake to view new managerialism as a unitary whole, implemented consistently across differing cultural and economic contexts, nevertheless in the redesign of public service provision, key features of managerialism include an emphasis on outputs over inputs; a change of language from that of citizens, rights, welfare, and solidarity to that of customers, service users, and competition; the close monitoring of employee performance; and the encouragement of self-monitoring through the widespread use of performance indicators, league tables (published tables of school rankings), target setting, benchmarking, and performance management. The decentralization of budgetary and personal authority to line managers combined with the retention of power and control at the central level, and the introduction of new and more casualized contractual employment arrangements, as a means to reducing costs and exercising control, are also defining practices. Within new managerialism, there is an elision of the differences between public and private interests. New configurations of public-private relationships are designated as “partnerships”; these include outsourcing services like catering and private finance initiatives for new public buildings (Ball, 2009). This entry discusses the theory of managerialism, its ties to neoliberalism, its impact on educational practice, and the relationship between gender and managerialism.

Theorists of managerialism regard management as a political and not merely a technical activity. They hold that it is best understood as an ideological configuration of ideas and practices brought to bear on public service organization, management, and delivery with a view to aligning organizational practices with those in the market system. It is about creating new management orthodoxy as to how public services are run. They regard it first and foremost as an ideologically motivated approach to managing public services (Ball, 2009; Blackmore, 2010).

However, most theorists who use the concept of new public management to analyze recent changes in the field see the process of management reform as

the implementation of an apolitical form of regulatory governance of public services by state agencies. Their main reason for rejecting the link between new forms of public management and ideology is that they regard it as not simply ideologically driven because governments of very different political persuasions in Western states have adopted new public management (or managerial) reforms (Pollitt, 2003).

Historical Antecedents

Within traditional capitalist enterprises, ownership and control of operations were integrated functions. As capitalism became corporatized, managing workers and ensuring their productivity became a separate professional task in large companies. The division between ownership and control facilitated the emergence of managerialism as management became a professional task. The work of managers was to ensure the efficient output of goods and service: maximum output for minimum cost. Max Weber characterized this form of thinking as an extreme form of instrumental reasoning where, in the interests of efficiency, value is not imputed to the activity itself but what the activity produces. He also foresaw the potential conflict between the formal-procedural rationality, to which instrumental reasoning leads, and more substantive value rationality, noting the dangers of the “iron cage” of extreme instrumentalism where there would be specialists without spirit and sensualists without heart (Weber, 1930/1976, p. 182).

In prioritizing efficiency and productivity over other values in work organizations, managerialism is closely aligned also with Taylorism or scientific management as developed by Frederick Taylor in the late 19th and early 20th centuries. In his 1911 book *Principles of Scientific Management*, Taylor argued that improving worker productivity involved increased surveillance and direction of their work by managers, thereby creating a management class with increased power within work organizations. The prioritization of management as a field of practice, in aligning efficiencies with increased outputs, remains a core principle of management today.

Governmentality and the Internalization of Managerialism

Michel Foucault's analysis of how power is exercised has greatly enhanced understanding of the way control and regulation is exercised, particularly how regulatory values are internalized and operationalized

at the individual level. His concept of governmentality helps explain the success of managerialism as a political project. It provides a conceptual framework for understanding how individuals implicate themselves in their own governance within managerial organizations (Foucault, 2010).

Drawing on Foucault, Nikolas Rose (1989) has contributed to a further understanding of the operation of governmentality at the individual level. He shows how control is increasingly exercised less through sovereign or hierarchical power than through internalized self-regulation, particularly in the neoliberal era. The internalization of managerial values is not a simple process. It involves the management of identity as a modality of control that includes “managing the insides” of workers, in terms of their hopes, fear, and expectations of success in the work organization. Flexibility, adaptability, self-empowerment, and self-actualization are incorporated into the new worker (and manager) identities: commitment to corporate goals for excellence and achievement becomes a necessary characteristic of the person (a matter of their character) rather than a requirement of the organization. In this sense, Rose speaks of the “ethic of autonomous selfhood” that pervades the enterprise culture—a governing of the soul that deploys new technologies of the self, governing from the inside out. Managerialism is thus a form of governmental rationality, a type of disciplinary knowledge that generates its own compliance; people internalize the values of efficiency, productivity, and outputs, through habitual practice and ideological infusion.

Managerialism and Neoliberalism

Managerialism cannot simply be reduced to a series of management practices and activities. It is embedded in a complex series of social, political, and economic organizational changes that are tied to neoliberalism as a political project (Clarke & Newman, 1997). It rests on the neoliberal assumption that the market is the primary producer of cultural logic and value and that solutions to societal ills and the management of social change can be best understood through the deployment of market logic and market mechanisms. Economic, educational, and social problems are thus construed as management issues that new and more efficient managerial regimes can resolve. The ethical, political, and social dimensions of such problems are treated as secondary considerations.

Managerialism is not regarded by most, therefore, as a neutral management strategy; it is a political project heralding a new mode of governance that provides a unique type of moral purpose for businesses, and organizations modeled on businesses, including schools and colleges. Market-led models of control and regulation become the prototype for work organizations both inside and outside the market. One of the major concerns expressed regarding new managerialism’s prioritization of efficiency and effectiveness is that it occurs at the expense of more broadly based moral and social values related to care, autonomy, tolerance, respect, trust, and equality. This has the ultimate impact of defining human relationships in work organization in transactional terms, as the means to an end—the end being that of high performance and productivity.

Managerialism, therefore, is quite a controversial mode of governance, as many claim that it reduces first-order social and moral values to second-order principles; trust, integrity, and solidarity with others are subordinated to regulation, control, and competition. When managerialist practices achieve hegemonic control within organizations, they parasitize and weaken those very values on which the organization depends. While few would question the value of efficiency, in terms of maximizing the use of available resources, the difficulty with managerialism is that it does not just prioritize efficiency, it suppresses other organizational values so that they become incidental to the running of the organization. The net effect of the devaluation of moral purposes in and of themselves is that public services, such as education, are increasingly defined as commodities to be delivered by the market to customers who can afford to buy them. They are no longer defined as capacity-building public goods that are governed by rights protected by law at national and international levels.

Managerialism and Education

Managerialism in education poses specific challenges for teachers and students. Managing a school requires many skills, some of which are purely technical and apply in any organization (planning, budget and time management, personnel relations, etc.), while others are unique to education, including the developmental and nurturing skills required to enable students to grow and develop and to support teachers in this task. Developing and caring for others entails an emotional investment in people that is not required in many organizations as a

“product.” Because managerial principles originated in a commercial context where process is subordinated to output and profit, managerialist values manifest themselves in education through the promotion of forms of governance (measurement, surveillance, control, and regulation) that are often antithetical to the caring that is at the heart of good education. While the nurturing of learners has an outcome dimension, gains are generally not measurable in a narrowly specifiable time frame. The gains and losses from having or not having care and nurture in education are only seen over time (Feeley, 2009). Moreover, the caring dimensions of education are not open to measurement in terms of quality, substance, and form within a metric measurement system. Even if caring could be monitored and measured through matrices, the very doing of this would force people into the calculation of other centeredness that would undermine the very principle of relatedness and mutuality that is at the heart of teaching and learning (Lynch, Grummell, & Lyons, 2012).

As managerialism is the organizational form aligned with neoliberalism, it implicitly endorses a concept of the educated person that is market led. Education is defined in terms of human capital acquisition, making oneself skilled for the economy. The purpose of education is increasingly limited to developing the neoliberal citizen: One is educated to be a self-sufficient, rational, competitive, and economic actor, a cosmopolitan worker built around a calculating, entrepreneurial, and detached self.

Impact on Education Professionals

Managerialism has also altered the relationships between professionals and the state, especially in the public sector. The traditionally powerful position of professionals in public sector organizations has been strongly challenged through systems of surveillance, regulation, and accountability that have been established under managerialism. The forms of accountability that have been institutionalized for the professions, including the promotion and enhancement of user groups (parents and students), and other education stakeholders, including business and corporate interests, meant that educational “consumers” exercise control and influence over professionals in a way that was not true hitherto. Consequently, there has been a restructuring of professional identities in line with technicist job requirements. Measuring one’s professional performance

against key indicators established by stakeholder interests has become a task in itself (Deem, 2004). However, not all of those within the professions are equally affected by the changes. The strategic importance of reconstructing professionals as managers for the successful implementation of managerial reforms has allowed those who endorse managerialism to make professional gains. Thus, even among professionals, divergences of power, status, and influence have emerged between those aligned with and exercising managerial control and those concerned with the systematic maintenance and administration of school routines.

Impact of Managerialism on Educational Practice

Managerialism has had a profound influence on the management and orientation of education over the past two decades of the 20th century, and into the 21st century. The impact of managerialism has not been even, however, either geographically or across educational sectors. Its impact is greatest in higher education where there has been a global movement to make higher education into a marketable commodity that can be traded internationally (Marginson, 2006). The introduction of league tables and rankings for universities (most rankings are commercially led by powerful publishing interests in the media including the *Times Higher Education* World University Rankings and that of Quacquarelli Symonds) has been an especially powerful tool for generating control over universities. The impact of the managerialist culture is not confined to higher education, however, especially within the English-speaking world of Australia, New Zealand, Canada, the United Kingdom, and the United States. Within these countries, managerial practices have also been invoked at primary and secondary levels through the introduction of local site-based school management and the devolution of budgetary control to individual schools. It has also involved the introduction of performance management pay and appraisal systems and national standardized testing of children. Published ranking of schools is also common, resulting in the polarization of schools (primarily on the basis of social class) as middle-class schools become oversubscribed and low-performing schools struggle to maintain their numbers. The impact of these reforms on school personnel, both teaching staff and senior management, has been substantial, leading to changing subjectivities

among both teachers and principals, as they seek to position themselves within the new managerialist order. There is a privileging of entrepreneurial activity as school leaders attempt to market their schools in line with “consumer” demands and interests.

Gender and Managerialism

Senior management posts are gendered within (and without) education, especially in higher education. Male power is embedded within organizational structures through hidden constructs of the “ideal” type manager, through methods of recruitment and selection, through processes of job grading and career progression, through the organization of hours of work and via the seemingly neutral informal networks and sponsorship that operate outside of work hours in clubs, gyms, sport, and other leisure activities (Blackmore & Sachs, 2007; Halford & Leonard, 2001).

The gender impact of managerialism in education has taken a number of hybridized forms depending on the sector in which it is implemented. However, in all contexts, its successful implementation involves a shift in organizational culture to one that is firmly embedded in the principles of market dynamics, accountability, and enhanced productivity. When analyzed in terms of gender dynamics, managerialism presents both challenges and opportunities for men and women to (re)negotiate their positions in the highly competitive market-oriented culture. With the breakdown of traditional patriarchal power positions, there is an emphasis on what you can do rather than necessarily who you are; in theory, women have the same chance of being promoted to senior posts as do their male counterparts in new managerial regimes. The de-layering of management structures can and does undermine traditional patterns of male dominance (Collinson & Hearn, 2003; Deem, 2004). However, under managerialism, there is also an expectation that senior managers are competitive, tough, individualistic, and wedded to the organization. There are assumptions that senior education managers can be workers 24/7, a lifestyle that is highly gendered in a way that advantages men and women who have few responsibilities outside of work (Lynch, et al., 2012).

Under managerialism, there is also a new code of values underlying decisions about what constitutes valuable knowledge—decisions that affect the organization of power. Market knowledge matters most; disciplines and fields of study that are not

marketable have lower status and power. As STEM (science, technology, engineering, and mathematics) subjects are prioritized in the neoliberal era of market-relevant research and education, those who teach and research in these fields are at the pinnacle of the knowledge hierarchy, especially if their work has market relevance. Their research is given priority for funding and is most likely to attract private investment in public–private partnerships given its potential for patents and profit. Given the traditional male dominance of STEM subjects, it is not surprising that the gender hierarchies of knowledge translate into gender hierarchies of governance, especially in higher education. While women in the STEM fields do benefit from this process, they remain a minority. Subjects remain gendered and stratified, not just in status terms but in funding terms; research and teaching in the humanities and social sciences, all of which are strongly feminized fields, and are centered on the relatively poorly funded voluntary and public service sectors where no patents apply, are positioned as dependents in the market-led world of managerialism.

Kathleen Lynch

See also Economic Development and Education; Gender and Education; Globalization and World Society; Higher Education: Contemporary Controversies

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MARITAIN, JACQUES

The prominent French neo-Thomist Jacques Maritain (1882–1973) articulated a holistic philosophy of education that must be understood in light of his adult conversion to Roman Catholicism and his determined attempt to revive a rationally compelling Christian philosophy through a systematic application of the ideas of the medieval philosopher Thomas Aquinas (1225–1274). Maritain argues for a spiritually sensitive humanism that views education as an aid to individual human flourishing.

Life

Raised as a Protestant, Maritain began his university career as a science student at the Sorbonne. In 1901, driven to despair by their sense of the moral and spiritual poverty of materialistic science, he and his future wife, Raïssa Oumançoff, made a pact that they would commit suicide within a year

if they could not find some higher meaning in life. They were first attracted to the lectures of Henri Bergson, who reasserted the primacy of “intuition” or immediate experience as a deep source of legitimate knowledge that moved beyond science. Under the influence of Leon Bloy, Maritain and his wife converted to Catholicism and eventually discovered Thomas Aquinas, leaving their Bergsonian ways behind for a comprehensive but sometimes eclectic modern Thomism.

After earning several degrees in science and philosophy from the Sorbonne, Maritain went on to teach at many different universities, including l’Institut Catholique de Paris, the Pontifical Institute of Mediaeval Studies at the University of Toronto, Columbia University, the University of Chicago, the University of Notre Dame, and Princeton University. After the death of his wife in 1960, he entered the Little Brothers of Jesus, a new religious congregation inspired by the life and thought of Charles de Foucauld. He led a quasi-monastic existence at their house in Toulouse until he died in 1973.

An eclectic, wide-ranging author, the mild-mannered Maritain was a celebrated, progressive, Catholic intellectual. He had an ardent interest in literature and art and wrote significantly on aesthetics. An international authority on political, moral, and philosophical issues of the day, he played a role in the drafting of the United Nations Universal Declaration on Human Rights and was the French ambassador to the Vatican from 1944 to 1948. He was criticized in some conservative circles for what was regarded as a commitment to secular, modern, liberal ideals and a misplaced social justice perspective. Lately, there has been a resurgence of interest in his thought; there is currently a Jacques Maritain Center at the University of Notre Dame. The university’s press is publishing an extensive collection of English-language editions of Maritain’s work.

Philosophy of Education

Maritain’s philosophy of education cannot be separated from his larger philosophical orientation, which derives from Aquinas, Aristotle, neo-Scholastics such as John of St. Thomas (John Poinsett), as well as canonical Christian authors such as Augustine and St. John of the Cross. His traditional, humanist views can be seen as reaction to pervasive modern trends. Maritain argues against naturalism (or positivism), which views science as an explanation of everything; against atheistic

Marxism, which reduces the individual to part of a merely historical collectivity; against existentialism, the idea that ethics arises through radical (subjective) choice; against pragmatism, which views knowledge as merely a matter of instrumental reason ("what works"); against any modern idealism that would deny metaphysical access to the real world; against neo-Kantianism, which views knowledge (particularly moral knowledge) as nothing but a matter of universal rules; and against an analytic conception of philosophy, which promotes a narrow specialization that neglects wider historical and humanitarian concerns.

In response, Maritain offers a personalist view of education. His neo-Aristotelian views are frankly teleological. Human beings have been made with a natural and a supernatural purpose, which includes the perfection of their moral and intellectual natures as well as growth in their knowledge of God. The primary goal is not the mere accumulation of knowledge but the full development of the human personality. At every level, the role of the teacher is to encourage and facilitate the optimal realization of the particular talents and abilities of each student. Maritain believed that men and women are different but equally capable of intellectual excellence. Women are more intuitive than men. He strongly opposed corporal punishment. Instead of enforcing diligence and prohibiting wrongdoing, teachers should promote a sense of responsibility that naturally pushes individuals to a moral and intellectual success commensurate with their capacities.

Maritain believed that education has an inescapable moral component. Goodness is more important than mere learning. Education should inculcate and foster five basic virtues: (1) a love of truth, (2) a love of justice, (3) an affirmative attitude toward all existence, (4) a sense of devotion to work well done, and (5) a sense of collegiality and cooperation with others.

Maritain maintained that education should be widely available to all. Without an adequate understanding of the stages of childhood development, one may harm the child. A student's likes and dislikes indicate the most appropriate course of individual study. He recommends the study of logic and philosophy at secondary school and supports a general liberal arts education (much like a Great Books curriculum) at the postsecondary level. The latter would include study of Greek and Latin classics, an emphasis on perennial philosophy, as well as an introduction to theology and to religious subjects.

More fundamentally, Maritain believed in interdisciplinarity. He did, however, identify four general areas of inquiry: the theoretical, practical (or moral), and technical, as well as a metalevel of inquiry that deals with more general and basic questions raised by the three first-order inquiries.

In his philosophy, Maritain leaves an important place for the exercise of intuition or connatural knowledge that arises not through language but through immediate, active participation in life. In discussing education, he argues against exaggerated ambition: Not everything can be taught. At the same time, he warns against empty skepticism: Content matters. The goal of education is to pass on knowledge, not to use logical quibbles to raise clever doubts in the minds of students. It is not enough to endlessly compare opinions to no useful end. Education must be motivated by a sincere, determined effort to grasp the nature of things.

The most salient feature of Maritain's theory is, perhaps, his holism: the idea that education should focus on the whole person, including the natural, scientific, useful, social, intellectual, spiritual, and the moral aspects of human nature taken together. His theory of education has a communitarian orientation in that it aims to insert each fully developed human person into a community of persons under God.

Louis Finbarr Groarke

See also Adler, Mortimer, and the Paideia Program; Aquinas and Thomism; Aristotle; Essentialism, Perennialism, and the "Isms" Approach; MacIntyre, Alasdair; Moral Education; Phronesis (Practical Reason)

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MARTIN, JANE ROLAND

This entry discusses the work of a late modern philosopher, Jane Roland Martin (1929–), who has contributed to at least two major paradigm shifts in thinking on education. First, she participated prominently in the movement that introduced analytic philosophy to educational theorists after the mid-20th century. Then, in that century's last two decades, she led the postanalytic turn to acknowledge and value women as subjects and objects of educational thought, along with their philosophically neglected, gender-constructed purposes, practices, problems, and culturally diverse genres of educational inquiry. That generative move unsettled analytic philosophy's dominance in the field nationally in the United States, even as it reinvigorated and broadened critical study of educational thought's history internationally. After the arrival of the new millennium, Martin analyzed the conceptual meaning and critical pragmatics of both "cultural miseducation" and "educational metamorphoses," studies that led her then to question "the deep structure of educational thought" and theorize education's 21st-century reconfiguration.

Martin's historical and social location has intensified the cultural significance of her prolific revolutionary legacy as a philosopher of education. Coming of age academically before sex equity became a federal policy governing appointments to the U.S. professoriate, she never had the privilege of pursuing tenure on a research university faculty despite her much noted early analysis of problems inherent in reducing all knowledge to skills. Instead, she taught a large number of undergraduates as a philosophy professor at University of Massachusetts–Boston, while writing *Explaining, Understanding, and Teaching* and many articles and lectures, including those collected later in *Changing the Educational Landscape*, as well as her groundbreaking reconstruction of five Western ideals of the educated woman in *Reclaiming a Conversation*. Producing most of her philosophical oeuvre as an emerita, she theorized "gender-sensitive" schooling in *The Schoolhome* and women's possible transformative impact on higher education in *Coming of Age in Academe*, before she turned to study cultural diversity's educational complexity and

significance in *Cultural Miseducation, Educational Metamorphoses*, and *Education Reconfigured*.

Philosophy, Curriculum, and Women

Martin's contributions to analytic philosophy of education centered on the structure of explanation and understanding as well as the logic of curriculum. Whereas the former project analyzed empathic understanding, *verstehen*, as an explicitly educational doctrine, the latter project included critical analyses of the relationship between disciplines and curriculum, of taken-for-granted notions such as "god-given subjects" and "immutable basics," and of the anatomy of school subjects. She posed and considered questions about how students' choices or mere chance could and should figure in curriculum construction, and in a landmark study, she analyzed the conceptual meaning of "hidden curriculum" as well as various options for educators' responses to it. She critiqued the ideal of liberal education and its most conservative advocates' objections to new interdisciplinary fields like social studies, Black studies, and women's studies. Undertaken in the era of radical movements for free schools, civil rights, and peace, these studies made scarce mention of women or gender but did lead Martin to argue that philosophical inquiry on curriculum should not be reduced entirely to epistemology: that ethical, social, and political curriculum questions merit philosophical attention as well.

In the 1980s, she began such an extensive philosophical project of curriculum inquiry by writing gender critiques of R. S. Peters's ideal of the educated person, of other analytic philosophers' standard senses of teaching and education, and of the canonical history of educational thought more generally—specifically studying works by Plato, Jean-Jacques Rousseau, William James, Paul Hirst, and Israel Scheffler. Her critical examination disclosed the field's preoccupations with "productive processes of society," which consisted of political, economic, and cultural learning that privileged men, and she theorized that philosophy of education reflected an epistemological inequality. She cited taken-for-granted exclusion, devaluation, and distortion of women as subjects and objects of educational thought, along with the field's neglect of questions and problems related to particular educational practices of "care, concern, and connection" traditionally associated with women, which initially she named the "reproductive processes of society," such as childbearing,

child rearing, and homemaking as well as nursing the sick and feeding and comforting others. Her proposed remedies for that canonized flaw were to enlarge the field's notions of sources and methods and to formulate a gender-sensitive educational ideal that took gender into account when it made an educational difference and ignored it when it should make none. Developed through her study of Mary Wollstonecraft's and other women's thought, her theorizing of that new ideal recommended that both sexes should learn both reproductive and productive processes of society. Later studying Maria Montessori and absorbing that language to formulate her ideal of the "schoolhome" as a "moral equivalent of home," Martin questioned school curriculum's reduction to "spectator" knowledge, deployed the Aristotelian golden mean to analyze virtues composing gender sensitivity, and expressed concern about cultural miseducation for "domephobia," a morbid fear and hatred of things domestic, detrimental to all, especially women and children.

Multiple Educational Agency

Critiquing education's conceptual reduction of individuals' knowledge to intentional schooling, Martin has premised all her postmillennial thought on a concept of "multiple educational agency" that decentralizes educative power. This original formulation acknowledges myriad cultural sites of learning besides schools, colleges, and universities—such as homes, mass media, libraries, museums, music halls, theaters, zoos, parks, camps, prisons, clinics, and places of worship and work—whose "cultural stock" may generate either "cultural assets" or "cultural liabilities." Especially evident in learned dispositions toward hatred or violence, cultural miseducation occurs through multiple educational agencies, whenever cultural assets fail to be transmitted, or whenever cultural liabilities are transmitted from one generation to the next. Martin calls for educational research in the form of "cultural book-keeping" to identify such cultural assets and liabilities and value cultural wealth. Beginning in earliest infancy, individuals undergo educational metamorphoses as they make internal and external "culture crossings" that transform their identities—which may include gender crossings. Thus, conceiving culture as curriculum, Martin has reconfigured education as a maker and shaper of both individuals and cultures, via any "encounter" between an individual and a culture in which both individual and culture

change, by coupling (or uncoupling) one or more of that individual's capacities with (or from) one or more items of cultural stock. On Martin's view, such individuals may include nonhuman animals, for she rejects the nature/culture divide. In bringing the two perspectives of individual and culture to challenge the deep structure of educational thought, Martin's reconfigured understanding of education may effect a third paradigm shift in philosophy of education.

Susan Laird

See also Aristotle; Gender and Education; Hidden Curriculum; Montessori Education; Rousseau, Jean-Jacques; Scheffler, Israel; Wollstonecraft, Mary

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MARX, KARL

Karl Marx (1818–1883) has never ceased to be controversial. Often said to have lost their relevance, his ideas again attract attention as the capitalist system faces new crises in the 21st century. His presence across philosophy, economics, and politics remains unique, and the power of his critique of modern Western society is seen in debates over the aims and

functions of public education. This entry focuses on Marx himself rather than on “Marxism,” a broad and diverse tendency that often departs considerably from its sources in Marx’s writings. It outlines his ideas on education and locates them within his thought as a whole.

Marx’s origins provide few predictors of his life’s work. Born in Trier to a Jewish family recently converted to Christianity, he received an academic schooling and gained a doctorate in philosophy from the University of Jena. From then on, Marx’s rebellious spirit led him in other directions. As a liberal newspaper editor, he experienced official censorship firsthand. Forced into exile in Belgium and then France, he was drawn to the emerging socialist movement and concluded that, unable to solve its own problems, philosophy must be replaced by political action: “The philosophers have only interpreted the world in various ways; the point is to change it” (Marx & Engels, 1975–2004, Vol. 5, p. 5).

In 1848, Marx and his lifelong collaborator Friedrich Engels were asked by a short-lived communist group to prepare a statement of its platform. The result was *The Communist Manifesto*, a brilliant blend of social analysis and fiery polemic. But when revolutionary turmoil in Europe subsided, a period of political reaction followed. After moving to London, where he remained, Marx turned to the task that occupied the rest of his working life: an analysis of the capitalist mode of production that is also a critique of political economy and a rationale for socialist revolution. By the time he died, just one volume had appeared in print. It was left to Engels and others to edit and publish a vast collection of further drafts, and to later socialists and communists to dispute possession of Marx’s intellectual legacy.

From Philosophy to Political Economy

Not until the 20th century did access to Marx’s early philosophical writings reveal his full theoretical trajectory. Although influenced by the idealist Georg Wilhelm Friedrich Hegel and even more by Hegel’s materialist critic Ludwig Feuerbach, Marx develops his own social critique in the “Economic and Philosophical Manuscripts” of 1844. His aim is to expose the human cost of a social system based on private property, in which everything can be bought and sold, including uniquely human talents and qualities. The outcome is what in English is called *self-estrangement* or *alienation*. These expressions imply sharp divisions: We are separated from other

men and women, from our own labor as well as its products, and from our “species-being,” Feuerbach’s term for our shared human nature.

To 20th-century readers, *alienation* seemed an apt label for the discontents of mass society. But Marx’s alienation is not just a state of mind: rather, of the whole person. Within the modern school, alienation in this sense is seen not primarily in the problem student, failure, or dropout, but precisely in the normal, well-behaved, and “successful” student, who has grasped that even learning can be brought to market for a price.

Marx’s contributions to educational thought arise out of his social theory. Implicit in this are philosophical commitments: to an antimetaphysical realism, a “dialectical” logic, and an insistence on the social and historical character of human nature. Marx rejects the determinism of Enlightenment materialists such as Robert Owen, for whom upbringing and education are “omnipotent” in forming individual character. He objects that this doctrine forgets that “the educator must himself be educated” and so leaves the source of social change a mystery. Marx’s alternative is what he calls *revolutionary praxis*, a mode of activity combining critical theory and social practice and capable of transforming the agent as well as circumstances. Later writers such as Paulo Freire have found inspiration in this conception, applying its logic to both pedagogy and political leadership.

However, a purely philosophical view of Marx would be untrue to his intentions and a distortion of his thought. His central achievement lies in political economy. It is a work whose demands have deterred many readers, although those who persevere are rewarded by discovering a great historical drama unfolding before them, together with its theoretical dimension. This is the first volume of *Capital*, published in 1867. Marx analyzes the economic basis of the capitalist mode of production and describes its rise to dominance in one country, Great Britain. In a historical chapter, he analyzes the social changes that came with the Industrial Revolution and gave rise to political developments like the British Factory Acts, which laid down regulations for the employment of labor in factories, mines, and workshops—including young people’s work and schooling.

One theoretical issue in *Capital* is how a seemingly fair and above-board exchange of labor for wages can give rise to a one-sided distribution of wealth in society that seems very unfair. Marx’s solution involves distinguishing between the “surface”

of society and underlying processes that turn out to involve an appropriation of unpaid labor. This is one illustration of his concept of *ideology*. Ideologies are false beliefs, but they are grounded in experience. As with optical illusions, appearances do not disappear even when known to be misleading. Yet by attaining a broader picture, we can correct our immediate impressions. According to later Marxian writers, schooling has its own ideology, one that attributes the success or failure of students to individual talents and traits, without acknowledging patterns of disadvantage grounded in social class. Here too, everyday experience supports beliefs that justify a status quo marked by systematic inequalities.

Marx and Public Schooling

In 1864, Marx returned to political activity as a leading member of the London-based International Working Men's Association. He prepared a policy on young persons' labor adopted at its 1866 conference. This document opens by claiming the absorption of women and children into the workforce to be "a progressive, sound and legitimate tendency" and goes on to offer specific proposals for ensuring the education of child workers.

To modern readers, Marx's favorable attitude to child labor comes as a surprise. He sees advantages in the combination of work and schooling required by the Factory Acts. The school's "mental" curriculum can be confined to basic literacy and numeracy, avoiding the danger of moral and religious indoctrination. Disagreeing with other socialists, Marx suggests that children will learn "the value of labor" and gain an awareness of social class relations not in a schoolroom but through engaging in paid employment. He sees other benefits in children's work as well: Practical skills are best learned early, and they contribute to an all-round personal development. Marx's approach leaves out any recognition of play as "the work of the child," a common theme in child-centered approaches to education. He looks forward to a society in which work will be "self-activity" rather than alienated labor—yet it will still be work and not a pastime as he thinks utopian socialists imagine. Marx's motto for a future society, "From each according to his ability, to each according to his needs," expresses a work ethic that influences his attitude to education, since it applies to children as well as adults.

Later International Working Men's Association conferences failed to follow up this policy for

public education. However, Marx took part in lively debates on the subject in the Association's central committee, and records of these meetings throw further light on his ideas about schooling.

The Polytechnical Principle

The most striking and influential element in Marx's proposed curriculum is usually called "polytechnical" education. It is a program of training designed as an alternative to vocational specialization. To understand this, however, some background is needed.

Marx believed that the Industrial Revolution had brought about changes in material production that must be reflected in any future education. In earlier periods, labor often depended on skills such as weaving, spinning, shoemaking, and so on. The tendency of machinery is to remove the need for skill and strength on the part of the worker: Both are, so to speak, built into the machine's design. The obsolescence of craft skills means an abolition of specialized training. That might seem a backward step, and in some ways, Marx thought it was, but in others, he saw it as highly progressive. For political economists such as Adam Smith, the division of labor is a crucial means of increasing productivity. At the same time, they draw attention to the bad effects of excessive specialization on the individual, accusing it of producing fragmented and one-sided human beings. Smith suggests that public education can contribute to a solution, but he provides few details. In contrast, Marx sees an opportunity for a new kind of education. He refers to it variously as "technological," "technical," and "industrial" training, but the term most used later is *polytechnical education*.

What Marx proposes is a "technological training which imparts the general principles of all the processes of production, and simultaneously initiates the child and young person in the practical use and handling of the elementary instruments of all trades" (Marx & Engels, 1975–2004, Vol. 20, p. 189). Such a curriculum has a theoretical and a practical component. It includes enough basic scientific knowledge to provide an understanding of the kinds of machine production that exist in modern society, and it also involves actual participation in these processes of production.

That sounds like an ambitious program, but in Marx's view, the tendency of machine production is to rationalize and simplify the work process to such an extent that one industrial occupation will not be

totally different from another. With the development of automation in the 20th century, the advance of machinery has certainly continued. On the other hand, the elimination of specializations is only half the story. New kinds of labor arise from technological innovation, an eventual stumbling block for attempts to introduce polytechnical training in Russia after the 1917 Revolution.

Still, Marx can claim to be providing a new approach to an old theme: the humanistic ideal of the many-sided but balanced personality. In the German tradition, this is the notion of *Bildung*. In Marx's version, the concept is radicalized through being linked with material production. With the arrival of machinery, he thinks that the amount of time needed for labor can be reduced sharply. Besides this, the kind of work done can be humanized by combining theory and practice and by engaging not in one kind of labor but in different kinds that develop various aspects of personality. The outcome will be a development of all-round skills and capacities that, Marx asserts, "will raise the working class far above the level of the higher and middle classes" (Marx & Engels, 1975–2004, Vol. 20, p. 189).

The State and Education

A political issue running through Marx's thinking on education is the role of the state. His early writings assume a view that he later repudiated: the Hegelian concept of a state that transcends the divisions of civil society. In *The Communist Manifesto*, the state is seen not only as the product of class society but as an instrument used by one class to dominate others. This sharp judgment poses problems for Marx in discussing public education. It implies that any school set up by the state must be bound up with class domination—and yet for the financial and organizational resources needed to establish general education, there seems to be no alternative to government provision.

In later political debates, Marx attempts to chart a course between these poles. His 1875 *Critique of the Gotha Program* condemns those who, as he puts it, want to make the state "the educator of the people" (Marx & Engels, 1975–2004, Vol. 24, p. 97). At the same time, he rejects his anarchist rival Mikhail Bakunin's call for a complete withdrawal from existing political structures, including state education, on practical grounds. Such a misuse of high-sounding principles, Marx responds, would simply condemn the working class to illiteracy and ignorance.

What he wants is a public education that involves state *support* but not state *control*. Such a system, he points out, already exists in at least one country—the United States—where schooling is decentralized, subsidized, and financed by the state but not directly provided by it. He is aware that a locally based school system is in danger of varying too much from one area to another but considers that state-appointed inspectors can ensure the maintenance of minimal standards. As with the polytechnical principle, he prefers to appeal to existing realities as the basis for educational reform rather than proposing utopian solutions.

In *Capital*, Marx speaks of "the necessity for abolishing the present system of education" (Marx & Engels, 1975–2004, Vol. 35, p. 491). The German word translated as "abolishing" is *Aufhebung*, which has a more complex meaning in Hegelian philosophy. It stands for a process in which something is transformed or raised to a higher level—a kind of abolition, one may say, but equally a preservation. A dialectical philosophy will argue that this process is driven by a conflict (or "contradiction") between opposites. Thus, when the young Marx calls for an *Aufhebung* of both philosophy and religion, he means that the human concerns that they represent in distorted ways need to be readdressed through the struggle for a more authentic community. His conclusion is that the real alternative to religion is not atheism but rather socialism. How does this line of thought apply to "the present system of education?" Arguably, a defining feature of the modern school is its separation from social life and, in particular, from working life. Marx's proposals for school reform are targeted at overcoming the division. Simply eliminating one side (in this case, "deschooling") would not achieve the goal. Instead, the polytechnical principle and the combination of learning with labor address a broader task set for the school: a reclaiming of education's essential links with the life of society. In this sense, Marx may be seen as a revolutionary influence in education as well as in other areas of social thought.

Robin Small

See also Alienation; *Bildung*; Hegel, Georg Wilhelm Friedrich; Ideology; Productive Labor and Occupations: From Dewey to Makarenko

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MEAD, GEORGE HERBERT

George Herbert Mead (1863–1931) was one of the classical philosophical pragmatists, along with Charles Sanders Peirce, William James, and John Dewey. Mead's work has been influential in social psychology, sociology, and social philosophy and is critical for a naturalistic understanding of mind.

Mead did graduate work with Josiah Royce at Harvard, studied briefly with Wilhelm Wundt at Leipzig, and did further work at Berlin. Afterward, he joined John Dewey as a professor at the University of Michigan. When Dewey left for the University of Chicago, he arranged for Mead to go with him, helping create a strong "Chicago school" there. In Chicago, Mead was actively involved with Jane Addams's Hull House and other social reform efforts.

Mind and Nature

Mead's central project was to get past the conventional dualistic view that mind and nature are categorically different and opposing kinds of things. Since the development of classical mechanics, natural processes have often been viewed in deterministic, mechanical terms, future events being caused by prior events. This makes end-directed behavior, like that exhibited by living things, difficult to understand, since future events, such as an implicitly sought end, appear to control present behavior. Mind, or reflective thought, becomes even more mysterious since it is regulated by abstract objects, like thoughts "about" a perfect circle, that have no existence whatsoever.

Mead's approach to this problem was to adopt a form of emergent interactionism or emergent evolutionism (see also Dewey, 1929/1958). If one sees life as emerging from simpler interactions between non-living things and reflective intelligence or "mind" as emerging from interactions between simpler organisms, one can (at least in principle) begin to restore continuity between mind and nature. Approached in this way, mind becomes *part* of nature rather than something opposed to it. Since "nature" includes complex processes and functions, like those involved in life and mind, it also becomes something more than a series of mechanical interactions, since new functions and objects emerge as it evolves. As Mead (1934/1967) noted, prior to the evolution of biological life there "would . . . be no food—no edible objects," because there would be "no organisms which could digest it" (p. 77). Similarly, prior to the evolution of symbolically communicating organisms there were no words, laws, or stop signs, all of which are a part of "nature" considered more broadly.

Mead's emphasis on finding continuity between mind and nature can be seen as very contemporary, as limitations of classical mechanics as *the* way to understand natural phenomena become more fully understood (Bateson, 1988; Deacon, 2012; Dennett, 1995, 1996; Prigogine, 1980).

Social Meaning

The key phenomenon that Mead sought to explain was the way human reflective thought and self-consciousness can emerge from simpler forms of communication among animals. The concept of the "gesture," borrowed from Darwin and Wundt, was key to this analysis.

For an act to be successful, its preparatory phases must begin before later phases occur. One's heartbeat and blood pressure must increase prior to urgent action, just as one's legs must be braced before lifting a heavy stone. If these preparatory activities are detectable by other organisms, they can become "gestures," or signs to which the other organisms respond as though indicating the complete act to come. Merely looking at one's dog in a certain way may stimulate it to go to the door as though about to begin a walk. Its going to the door may stimulate you, in turn, to pick up its leash, even though you were not initially intending to do so. A continuing series of signals and countersignals might eventually result in a "walk" being completed together. In another case, such as when two boxers are trying to

block each other's blows, each boxer might respond to a series of feints, which also serve as gestures, or signs of an impending blow, without a single blow being completed.

Mead saw such "conversations of gestures" as the origin of "social meaning." His approach to meaning was a triadic one, drawn from Peirce, in which meaningful signaling necessarily involves three terms, a sign, an interpretant, and an object. As Mead (1934/1967) put it,

The logical structure of meaning . . . is to be found in the threefold relationship of gesture [sign] to adjustive response [interpretant] and to the resultant of the given social act [object]. Response on the part of the second organism to the gesture of the first is the interpretation—and brings out the meaning—of that gesture, as indicating the resultant of the social act which it initiates. . . . This threefold or triadic relation between gesture, adjustive response, and the resultant of the social act which the gesture initiates is the basis of meaning. (p. 80)

The initial glance at the dog might be a gesture (sign) that means a "walk" when interpreted by the dog's going to the door (the interpretant).

This trinary approach to meaning suggests that signs must be interpreted in the light of their practical implications for conduct if they are to have clear meaning (Peirce, 1878/1923). The relationships figuring in meaning are not merely a binary relationship between signifier and signified, or sign and object. Any sign can mean far too many things, so its meaning must be interpreted in context. The dog's response to your look gives it a certain interpretation, just as your response to its walking to the door gives an interpretation that may or may not confirm its interpretation of your look. The potential meaning of such signs develops out of habits of mutual interaction, just as their actual meaning in a particular instance is worked out in social interaction. As a result, meaning is not something enclosed in the skull. Rather, "the basis for meaning is objectively there in social conduct, or in nature in its relation to. . . . conduct" (Mead, 1967, p. 80). The meaning of gestures, or social signs, is how they function in social interaction.

This approach to meaning also makes clear that meaningful signaling requires at least three events and cannot be reduced to a binary mechanical relation, like force and acceleration or cause and effect. If we are to understand mind, a different framework is required that involves a sign, an interpretant, and

the subsequent completion of an act confirming (or disconfirming) the interpretation of the sign.

Mind and Self

Mead saw the development of social meaning as the substrate from which reflective processes, such as "mind" and "self," can emerge. Vocal gestures are key to this development since they can be perceived by the organism emitting them as well as by other organisms, while other kinds of gestures, such as facial expressions or bodily postures, cannot be perceived very well by the emitting organism. Although a vocal cry might seem very different from a bodily posture, Mead treated it as a "gesture," or signal of likely behavior to come, like any other.

If a vocal gesture's implicit meaning is contradicted by an unexpected response from another organism, the emitting organism may become conscious of the meaning of its utterance to another—since it can both hear its own utterance and perceive the surprising response to this signal by another, the conflict stimulating conscious attention. This can lead to interpreting the meaning of one's gestures in light of their meaning for others. When a sign comes to play a similar role for two or more interactants, allowing them to consciously signal one another in a way that has the same meaning for both, it becomes a "significant symbol," an element of language.

When, in any given social act or situation, one individual indicates by a gesture to another what this other individual is to do, the first individual is conscious of the meaning of his own gesture. . . . insofar as he takes the attitude of the second . . . toward that gesture, and tends to respond to it implicitly in the same. . . . Gestures become significant symbols when they implicitly arouse in an individual making them the same responses which they explicitly arouse, or are supposed to arouse, in . . . the individuals to whom they are addressed. (Strauss, 1934/1964, p. 173)

If one can take the role of the other and respond to one's own gestures as another would, one begins to engage in a "conversation of gestures" with oneself. This conversation of gestures with oneself, in which one responds to the meaning one's gesture would have for others, *is* reflective thought. It is not just a sequence of meaningless vocalizations, however, but an interplay of beginnings of acts, whose meaning is responded to in subsequent gestures, the result having to be literally *worked* out. Considered

in this way, thinking is an embodied and emotionally significant social process even though engaged in by only a single organism.

The same social process enables one to treat oneself as an object, acting toward one's own characteristics or behavior in terms of their likely meaning for others. One combs one's hair and judges the likely impression on others, for example. Mead viewed the "self" as a reflective process whose active phase, the "I," does something whose meaning is perceived and judged by the passive or observing phase, the "me." Together, the "I" and the "me" make up the *process* of the "self," which is primarily concerned with adjusting one's relation to others, who engage in similar adjustive processes in return.

Education

In showing mind, or reflective thought, to be a social process deriving from concrete social interactions, Mead helped ground thinking in embodied participation in social activities. By showing mind to be both embodied and social, he helped correct the two greatest flaws in the conventional Cartesian view of mind (Bredo, 1994; Damasio, 1994).

The conventional conception of mind aligns with a conventional conception of education. If mind is disembodied reasoning engaged in by separate individuals, then students should sit still and work alone, the body—and other individuals—being sources of interruption that need to be controlled.

If mind, however, is an inherently social process involving the use of symbols having (potentially) common meaning that are used to do things together, then one needs to participate in cooperative social practices in order to learn the use and meaning of symbols. When Mead (1910/1964) looked at conventional schooling, he saw it as tending to focus on tasks divorced from the life of the child and the life of the community, resulting in social relations being used primarily to enforce compliance with meaningless activity (p. 120).

The remedies he proposed were much like Dewey's (1900/1956)—to make schooling more social and interactive so that it related better to the life of the child and the community. Early schooling could be more playful and imaginative, focusing on questions arising in the child's experience that can be explored together. According to Mead, school should also be more connected to the life of the community, so children had a better sense of its relation to communal roles and values, much as those in

traditional societies did when going through initiation ceremonies. As Mead (1910/1964) put it,

The process of schooling . . . cannot be successfully studied by a scientific psychology unless that psychology is social. . . . So far as education is concerned, the child does not become social by learning. He must be social in order to learn. (p. 122)

Eric Bredo

See also Dewey, John; *Evolution and Educational Psychology*; James, William; *Spectator Theory of Knowledge*

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MENCIUS

Mencius (372–289 BCE), born in China 100 years after Confucius's death, is the second great sage of Confucianism. His teachings and conversations are recorded in *Mencius*, which is one of the four canonical works of Confucianism.

Mencius accepted Confucius's philosophy but developed it in new directions, made it a more complete and unified philosophical system, added needed rigor, and bolstered Confucian insight with supportive argumentation. His philosophy of education is based on his theory of human nature, which is his most significant contribution to Confucianism. According to Mencius, all human beings have, as part of their innate nature, the capacity to be good. This capacity needs to be cultivated if individuals are to be virtuous. Accordingly, education consists in the cultivation of the capacity to be good and thus aims at making people virtuous. As a joyful and desirable activity, Mencius says, teaching people to be virtuous is second only to serving one's parents well.

Goodness, Human Nature, and Education

Mencius argues that goodness results from perfecting our innate nature. The “sprouts” of the virtues, he says, are innate in human beings and “grow” from the “seeds” of benevolence, righteousness, propriety, and wisdom implanted in us. Consequently, education should aim at cultivating such virtues. Emotions and attitudes are particularly important in education and as components of virtue: Feelings of genuine compassion, of disdain, and of deference are requisite, as are attitudes of approval and disapproval. People do not always act appropriately on the basis of these feelings and attitudes and may not even have the appropriate feelings or attitudes; if they did, education would not be necessary. Still, he argues, even if the appropriate feelings and attitudes are only spontaneous and fleeting in some people, they are common to everyone. If, for example, a person were to see a child about to fall into a well, she would spontaneously feel compassion for the child. Such a feeling is neither one of self-interest—caring for the child only because one cares for oneself—nor one of selfishness—not caring for the child at

all. Some element of compassion, however small, is thus part of us all. In his own way, Mencius is arguing for the same view that Western moralists, such as Bishop Joseph Butler, argued for almost 1,500 years later: Self-interest is not the only motive that prompts human action, and conscience is part of human nature.

To cultivate the virtues, then, education should be focused on feelings and attitudes. Both bean sprouts and the “sprouts” in the human heart need nurturing to flourish. With proper nurturing, such sprouts naturally grow and flourish by themselves. But in both cases, a desire to flourish and a good environment are needed. Education consequently requires both societal oversight and individual effort.

The Environment and Education

Even though human beings have a natural capacity to be good, that capacity can easily be damaged or destroyed. Mencius regards the innate feelings and attitudes of compassion, disdain, deference, and approval and disapproval as sprouts and compares them with limbs. If we know that we have limbs and properly nourish and exercise them, they will be healthy and function properly. As far as the cultivation of virtue is concerned, the primary nurturing element is the environment.

A good environment includes a government or ruler who can ensure that there is sufficient material wealth and leisure for citizens. Education or moral cultivation is not simply a task for educators and families, but for society as a whole. Sprouts on a mountain need moisture and sunlight to grow, and sprouts in a human heart need a supportive environment, including decent living conditions. If people cannot support themselves adequately, Mencius argues, they will lack the constancy of purpose needed for virtue and will do evil things. Only with a sufficient livelihood will people be able to serve their parents and to support their families. In fact, Mencius believes that this material substratum should be ensured prior to moral instruction.

A good environment also includes ethical guidance from the rulers and sages. Like Confucius, Mencius believes in the transformative power of the virtues of rulers, sages, and moral exemplars. The virtues of such people are like rainfalls that transform sprouts. The virtues themselves are thus one mode of moral instruction. The filial piety of a son transforms the father, the family, and other members of the community; the benevolence of a ruler

transforms the citizenry. Conversely, a bad government or corrupted society damages the innate capacity for goodness, which, being violated, cannot grow.

Individual Effort

Aspiration and individual effort also are necessary for flourishing. Without aspiration, moral cultivation cannot begin. Individual effort refers, in part, to learning from the teachings of sages and emulating them, especially in the examples they set. However, individual effort goes beyond this. Critical reflection also is needed, for without it people can easily fail to be virtuous. By “reflection,” Mencius means the process of understanding one’s own feelings and actions in particular circumstances and using that understanding in similar cases that require similar actions.

Assistance in Reflection and Socratic Method

More than anything else, the necessity of reflection points to the significant role of teaching in Mencius’s philosophy. Since virtue is the result of the cultivation of an innate capacity, and an innate capacity is not something teachable, in an important sense, Mencius does not regard virtue as teachable. But since the assistance of teachers is necessary for reflection, teaching is necessary for virtue. In fact, for Mencius, teaching is essentially assistance in reflection. Aspiring individuals typically do not know how to reflect in a way necessary for the cultivation of virtue, even if they read the teachings of the sages and try to emulate the examples they set. A teacher is needed to instruct aspiring individuals in reflection, and “the method of questions and answers,” similar to the Socratic method of *elenchus*, is the principal way by which Mencius conducts such instruction. According to Mencius, this pedagogical method does not merely work for him but is the preferred method of moral instruction for all teachers. Its effectiveness is well illustrated in Mencius’s conversation with King Xuan. King Xuan saw a frightened ox about to be executed in a ritual, felt strong compassion for the ox, and ordered a sheep be put in its place. The king had fleeting and unreflective compassion for an animal he saw in front of his eyes but felt nothing for the sheep that he had not seen. He was not aware of the nature and depth of his feeling and action. Realizing this, Mencius used *elenchus* to clarify, for the king, the nature of his action as an expression of compassion and encouraged him to extend his compassion to his people, who

deserved help from their king. Answering Mencius’s questions, King Xuan understood, and the sprouts in his heart grew. Mencius completed his teaching by exhorting the king to be a benevolent, and not just a compassionate, ruler.

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See also Character Development; Confucius; Self-Regulated Learning; Socrates and Socratic Dialogue; Virtue Ethics

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MERLEAU-PONTY, MAURICE

See Phenomenology

METACOGNITION

The idea of learning how to learn is quite old and can be traced back to the Socratic method of questioning; over the past four decades, though, this idea has been incorporated under the scientific term *metacognition*. This modern conceptualization is credited to the developmental psychologist John H. Flavell, the “father of the field,” and it has become one of the major foci of psychological research.

Today, metacognition is referred to in different disciplines, in different ways, and it is studied from a variety of perspectives. These include developmental psychology (e.g., theory of mind), experimental and cognitive psychology (e.g., metamemory), educational psychology (e.g., self-regulated learning), neuropsychology (e.g., executive functions and prefrontal brain areas), social cognition (e.g., human interactions), clinical psychology (e.g., reflection on thoughts and actions), as well as with coregulation and other regulation of behavior and cognition, and

research in animal metacognition (e.g., “theory of mind” in chimpanzees; Efklides, 2008).

But what is exactly the nature of metacognition? What is the function of this mental capacity? How is it related to cognition itself, to learning, to critical thinking, to academic performance? What is the content and epistemic status of metacognitive assessments? Is it conscious or unconscious? Can it be taught, and how? Some of these questions are tackled in the remainder of this entry.

Definition of Metacognition

Although *metacognition* has become a fashionable term that names a hot research area, one that has produced promising teaching strategies, giving a definition of the term has proved to be a complex task; a generally accepted definition can hardly be found in the literature. It seems that any attempt to discuss the nature of metacognition is inevitably linked to the problem of distinguishing between what is “meta” and what is “cognitive” (Georghiades, 2004).

As traditionally defined, metacognition is thinking about thinking or the monitoring and regulation of thinking. Initially, Flavell (2000) referred to metacognition as “knowledge that takes as its object, or that regulates, any aspect of any cognitive endeavor” (p. 16). But since Flavell’s first attempt to define the term, many different accounts of metacognition have appeared in the literature; here is an incomplete sampling: Metacognition includes the estimation of one’s own mental activities, planning, monitoring, and evaluation; metacognition is “thoughts about thoughts”; it is “understanding and controlling cognitive activity”; and it is “information about an individual’s cognitive system.” In sum, it seems that metacognition can be considered as an awareness of one’s own thinking processes and how these can be controlled (Aydin, 2011).

Another complexity is that gradually the definition of metacognition has been broadened and now includes not only “thoughts about thoughts” and cognitive states (as it was initially conceptualized) but also affective states, motives, intentions, and all those states related to cognitive phenomena, as well as the ability to consciously and deliberately monitor and regulate them (Papaleontiou-Louca, 2008). That is, the concept has been broadened to include anything psychological, rather than just anything cognitive. For instance, if one has knowledge or cognition about one’s own emotions or motives

concerning a cognitive enterprise (e.g., being aware of your own anxiety while solving a problem in an exam paper), this can be considered metacognitive. In fact, more recent literature completes the term, by adding to its cognitive domain the emotional one—referring to the emotions *that accompany the cognitive processes* and the person’s ability to monitor them.

Various Distinctions in the Concept of Metacognition

Although metacognition may have rather vague boundaries, key distinctions can be made that help clarify the literature:

First, there is the well-known distinction between metacognitive knowledge (knowing about what you know) and metacognitive processes (knowing how to regulate what you know). In other words, we can distinguish between knowledge and skills—between “knowing that” and “knowing how,” the old distinction between theory and practice, and between competence and performance. For example, the theoretical aspect of “knowing that” might be that a student can distinguish relevant from irrelevant information in a problem, and the practical aspect might be the ability to do this in practice, perceiving what is relevant in a “noisy” environment. Similarly, one may “know that” different strategies can be applied in different problems, and another might “know in practice how” to select the suitable strategy, when needed, to resolve a problem (Papaleontiou-Louca, 2008).

Ann Brown (1987) distinguishes between knowledge about cognition and regulation of cognition. *Knowledge* about cognition can be information that human thinkers have about their own cognitive processes, which usually remains relatively consistent within individuals. *Regulation*, on the other hand, refers to activities used to regulate learning. One may show self-regulatory behavior in one situation but not another; and a child may show self-regulatory behavior where an adult does not. Regulation may also be affected by patterns of arousal (anxiety, fear, interest) and self-concept (self-esteem, self-efficacy). Self-regulation processes include planning activities (predicting outcomes, scheduling strategies and various forms of vicarious trial and error, etc.) that are engaged in *prior to* undertaking a problem; monitoring activities (monitoring, testing, revising, and rescheduling one’s strategies for learning) *during* learning; and checking outcomes (evaluating the

outcome of any strategic actions against criteria of efficiency and effectiveness) *at the end*.

Similarly, Kluwe (1982) gives an account in which metacognition is constituted by two basic activities: “(a) the thinking subject has some knowledge about his own thinking and that of other persons; (b) the thinking subject may monitor and regulate the course of his own thinking, i.e., may act as the causal agent of his own thinking” (p. 202). Moreover, Kluwe uses the term *executive processes* to include both monitoring and regulating strategies. Executive *monitoring* processes involve one’s decisions that help (a) identify the task on which one is currently working, (b) check on current progress of that work, (c) evaluate that progress, and (d) predict what the outcome of that progress will be. Executive *regulation* processes are those that are directed at the regulation of the course of one’s own thinking. They involve one’s decisions that help (a) allocate his or her resources to the current task, (b) determine the order of steps to be taken to complete the task, and (c) set the intensity or (d) the speed at which one should work the task.

In addition, while attempting to clarify some of the obscurity covering metacognition, Flavell (1976) distinguishes between two key aspects: (1) knowledge and beliefs about cognitive processes on the one hand and (2) the deliberate or conscious orchestration of cognitive functions on the other. Flavell (1981) also makes another important distinction between (a) metacognitive knowledge and (b) metacognitive experience:

Metacognitive knowledge is that part of one’s knowledge that refers to cognitive matters, a part of one’s accumulated world knowledge that has to do with people as cognitive agents and their cognitive tasks, goals, actions, and experiences (Flavell, 1981). Some examples of this kind of metacognition are when you are able to describe your understanding of what goes on, or to explain and recognize feelings of uncertainty or confusion in some people. Flavell differentiates this kind of knowledge further to include person, task, and strategic variables (Papaleontiou-Louca, 2008).

Metacognitive experience, on the other hand, refers to conscious feelings during some cognitive activity that relate to the process—for example, during a communication task, feelings that you do or do not understand; or feelings making you hesitant about the choice you have made, comprise conscious experiences that can be either *cognitive* or *affective* and are pertinent to an ongoing cognitive situation or endeavor (Flavell, 1987).

Attempts to clarify the nature of metacognition continue in the literature; in a review paper, Flavell (2000) divided metacognitive theory into two areas: *knowledge* and *processes*. Metacognitive knowledge includes understanding of how minds work in general and how a particular mind works. The processes of planning, monitoring, and regulating thoughts are generally known as *executive processes*, which involve the interaction of two levels: At one level is the creative, associative, wandering mind and above it is the executive, trying to keep it on task. It is important to note here that “theoreticians seem unanimous—the most effective learners are self-regulating” (Butler & Winne, 1995, p. 245). Key to effective self-regulation is accurate self-assessment of what is known or not known. Only when students know the state of their own knowledge can they effectively self-direct learning to the unknown.

Several other issues that continue to be discussed in the literature are whether or not metacognition is necessarily a conscious process and where the boundary between cognition and metacognition should be drawn. And, of course, the relevance of metacognition to education and learning—and it is to this work that the discussion must now turn.

Metacognition and Learning

The great interest in metacognition stems from the widespread belief that students ought to be lifelong learners, equipped with the skills necessary both to solve problems in school and to extrapolate these skills into life through understanding their own thinking, learning, and strategic approaches to problem solving. Thus, today, as noted by Fatih Aydin (2011),

One of the main goals of education is to make the students gain the thinking skills and strategies which they will use throughout their lives, rather than storing information. A good education should be able to show the students how to learn, how to remember, how to motivate themselves and how to control their own learning, so that they can teach themselves how to learn. (p. 274)

There is extensive evidence that learners’ metacognition can directly affect their learning (for a sampling, see Boekaerts, Pintrich, & Zeidner, 2000; Winne, 1995).

Moreover, the ability to effectively manage one’s learning seems to lead to success in and beyond school and accuracy in self-evaluation (which is a metacognitive skill) was found to be related to

school performance in adolescence (Demetriou & Kazi, 2001).

Teaching students thinking strategies and meta-cognitive skills will lead them to pursue their own learning throughout their education and their life. Students *and* teachers need to engage in active practice on metacognition. Doing so, they become independent learners and gain control over their own learning.

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See also Cognitive Revolution and Information Processing Perspectives; Learning, Theories of; Neurosciences and Learning

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MILL, JOHN STUART

As a child, John Stuart Mill (1806–1873) was a guinea pig for an extraordinary system of education devised by his father James Mill, who was an associate of the utilitarian Jeremy Bentham and an important social thinker and philosopher in his own right. James hoped to make his eldest son a leading thinker in the next generation of the Benthamite Philosophical Radicals. John began studying classical Greek at the age of three and Latin at the age of eight. At eight, he also began teaching his younger siblings. He was isolated from other children, and his mother played little part in his life. By 14, he had read most of the well-known works of classical civilization, made a wide survey of history, and had worked extensively in logic and mathematics (Capaldi, 2004, pp. 6ff.; Wilson, 2012, § 1).

Not entirely surprisingly, he suffered a severe case of depression at the age of about 20, which he attributed to his father's intense pressure and lack of emotional support. He began to recover while reading a passage from Marmontel's *Mémoires d'un père* and was helped by Weber's opera *Oberon* and the poetry of Wordsworth. He tells the story of his education in Chapters 1 and 2 of

his *Autobiography* (1873) and that of the later crisis in Chapter 5. Varying lessons about intensive education have been drawn from each story.

As an educational theorist, Mill's most important writing comes in the second chapter of *On Liberty* (1859/1961), a work which he wrote with his wife Harriet (née Hardy, the widow of John Taylor) and published shortly after her death. Unlike many writers on education, Mill focuses on the central issue of what it is for students to understand something. Mill concludes, as Plato had concluded in the *Meno* (98a3, 1956, p. 154), that the essential thing is that they must know the reasons for what they believe: "If the cultivation of the understanding consists in one thing more than another, it is surely in learning the grounds of one's own opinions" (chap. ii, para. 23, p. 286). In mathematics, this requires following a proof rather than merely learning the theorem; but in subjects other than mathematics, it will involve joining in an active controversy (either real or feigned) in which different views contend. In what to a modern reader seems like an anticipation of the view popularized by Karl Popper, Mill explains that we must be aware of what opponents of our own view would say, because

he who knows only his own side of the case, knows little of that. His reasons may be good, and no one may have been able to refute them. But if he is equally unable to refute the reasons on the opposite side; if he does not so much as know what they are, he has no ground for preferring either opinion. (chap. ii, para. 23, p. 287)

Mill also anticipates the notion, often hailed as a new discovery even today, that theory in the natural sciences is underdetermined by evidence—that there are many theories or hypotheses that are compatible with a given body of evidence. Mill points out that experience alone is not decisive, and there needs to be discussion about how the experience is to be interpreted. Here Mill is close to anticipating what would emerge more than a century later as an important crux in philosophy of science and in philosophy of language, namely, that uninterpreted experience cannot play any cognitive or semantic role and that a purely observational language is impossible. All terms are theoretical, though some may be observational as well.

The learner must join in controversies, not merely witness them at second hand; to do justice to rival arguments, he must learn them from

individuals who actually believe them and who do their utmost to defend them (chap. ii, para. 23, p. 287). Furthermore, it is the possibility, and as far as possible the actuality, of argumentative combat that keeps what is learnt alive—a point Mill made in memorable prose "Both teachers and learners go to sleep at their post, as soon as there is no enemy in the field" (chap. ii, para. 29, p. 292). There is still opposition to addressing controversial issues in the classroom, let alone expecting school children to engage in the controversies; though some philosophers of education, for example, Hand and Levinson (2012) maintain Mill's enlightened position.

If an opinion is not regularly debated, Mill warned, the very meaning of the terms in which it is expressed will evaporate like a mist, and the opinion will collapse into a dead formula, readily repeated but as no more than a sequence of mere sounds without meaning. Even important truths can lose their meaning; without frequent and open discussion they will become mere dogma (chap. ii, para. 21, p. 285). Writing in mid-19th-century England, Mill cheekily chose his examples from Christian dogma, avowed widely by the overwhelming majority of the population.

All Christians believe that the blessed are the poor and humble, and those who are ill-used by the world; that it is easier for a camel to pass through the eye of a needle than for a rich man to enter the kingdom of heaven; . . . They are not insincere when they say that they believe these things. They do believe them, as people believe what they have always heard lauded and never discussed. But in the sense of that living belief which regulates conduct, they believe these doctrines just up to the point to which it is usual to act upon them. (chap. ii, para. 28, p. 291)

Not only is discussion necessary for preserving the meaning of an opinion, according to Mill, it is essential to its authority as a purported truth. It is tantamount to assuming one's own infallibility, Mill held, to undertake to decide a question for others, without allowing them to hear what can be said on the other side (chap. ii, para. 11, p. 275).

Mill's recommendations for curriculum in his *Inaugural Address Delivered to the University of St Andrews* (1867) are also worthy of note. History, geography, and modern languages, he thought, could and should be picked up outside school. The classical languages, mathematics, natural sciences

(particularly physiology), logic, the arts, and moral philosophy would be parts of the education provided at his university and required before the student went on to training for one of the professions. What was most important was to free one's mind from conceiving of education as absorption of views handed down by an authority. For Mill,

The proper business of an University is different: not to tell us from authority what we ought to believe, and make us accept the belief as a duty, but to give us information and training, and help us to form our own belief in a manner worthy of intelligent beings. (p. 40)

It would be encouraging to know that universities, let alone schools, in the 21st century had fully grasped this as their business and engaged their students with the arguments of adversaries who actually believe contrary opinions, defend them in earnest, and do their very utmost for them.

Jim Mackenzie

See also Liberal Education: Overview; Postpositivism; Utilitarianism

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MIXED METHODS RESEARCH

See Qualitative Versus Quantitative Methods and Beyond

MODERNIZATION THEORY

Modernization theory has occupied a central position in sociology and related social sciences. Modernization is the process exemplified by contemporary industrialized societies that are characterized by (a) a complex economy and division of labor, (b) the presence of mass communications, (c) both economic and cultural globalization, and (d) a decline in the role of local community together with a decline in the power of traditional social institutions such as social class, religion, and family. Such societies also are characterized by rapid decline in farming, the rise of the industrial proletariat and bourgeoisie, and later-occurring changes from a manufacturing to a service-based economy. Socioeconomic position within these societies becomes heavily influenced by educational attainment.

Modernization theory is not a theory in the sense that it consists of a series of logically interconnected statements generating specific unambiguous hypotheses. It is better understood as an organizing rubric, a collection of diverse and varying related hypotheses that generally contend that as societies develop, they become more open and more achievement oriented; and what people do and think are less tied to their socioeconomic background, social position, and other ascribed characteristics. This theorizing encompasses or intersects with several very general mega concepts: *industrialization*, *postindustrialization*, and *modernity*. In addition, there are varieties of associated concepts that characterize the change to modern society: *rationalization*, *bureaucratization*, *universalism*, *individualism*, *managerial capitalism*, *achievement orientation*, and *postmaterialism*.

Origins and History

Modernization theory has its origins in the social evolutionary theories of the 18th and 19th centuries, in which societies were viewed historically as progressing toward an end point—namely, contemporary European societies. The origin of sociology as a separate discipline can be attributed to the profound

and widespread social changes that were taking place in the wake of industrialization, and Anthony Giddens argues that the political climate from the French Revolution and the economic changes from the Industrial Revolution provided the context for the emergence of the discipline of sociology.

Early sociologists contrasted the change from traditional rural and religious societies with little division of labor to modern, urban, and largely secular industrial societies. The 19th-century social scientists developed a range of dualities and typologies summarizing this change from preindustrial to industrial society. Auguste Comte (1798–1857) argued that modern industrialized societies were entering the “positive” phase of development, with science becoming the dominant mode of inquiry and humanity, at large, the basic social unit rather than the family or the state. There is a universal order and a prevailing sentiment of “benevolence.” This contrasted with the earlier metaphysical stage characterized by organized religion, royalty, tradition, and explanations of both natural and social phenomena based on divine will. Herbert Spencer (1820–1903) contrasted “industrial” society with its contractual obligations and complexity to “militant” societies that were simple and ordered and where relationships were based on social norms and tradition. Ferdinand Tönnies (1855–1936) distinguished between *Gemeinschaft* and *Gesellschaft*. *Gemeinschaft* was the general term for preindustrial communities where social ties were intimate and informal and work was limited to a small number of general occupations: farming, soldiering, and some specialized trade and commercial occupations. In contrast, *Gesellschaft* (modern) communities were characterized by formalized ties and impersonal relationships and a large number of occupations. Similarly, Émile Durkheim (1858–1917) contrasted mechanical and organic solidarity. In small preindustrial communities, social cohesion was brought about by shared beliefs and practices: mechanical solidarity. In large-scale industrial societies, social cohesion is maintained by a shared acceptance of the interdependence of social units involved in a complex and specialized division of labor: organic solidarity. Robert Redfield (1897–1958) proposed a folk–urban continuum where folk societies are small, homogeneous, and based on religion, and the division of labor was only defined by age and sex. At the other extreme, urban industrial societies were secular and individualistic. Karl Marx (1818–1883)

differentiated societies by their mode of production and pointed out that European societies had progressed from feudalism to capitalism. The changes undermined the social relationships (e.g., loyalty, honor, fealty) that characterized feudal society. Max Weber (1864–1920) saw growing rationalization and bureaucratization as characteristic of modern society, decreasing the influence of social attributes on life chances.

Taking some of the ideas of Weber and functionalist theory, Marion Levy (1966) associates modernization with “rationality, universalism, and functional specificity” (p. 240). Peter Blau and Otis Duncan (1967) also emphasize universalism and science (p. 429). Not only are these changes limited to Western countries, Kerr (1983) and Kerr, Dunlop, Harbison, and Myers (1964) have argued that industrialization generates convergence between societies with different political and cultural systems: specifically, communist and capitalist societies. According to John T. Dunlop and colleagues, “The logic of industrialization results in advanced industrial societies becoming more alike, despite cultural and political differences, and certainly more alike than any one of them is like a less developed country” (Dunlop, Harbison, Kerr, & Myers, 1975, p. 37).

Daniel Bell (1973) has argued the case for postindustrial society replacing industrialized society. Postindustrial society would embody a meritocracy in which status and income are based on education and skill. Universities would become the arbitrator of class position (p. 410). Bell contrasts modern society to “estate society,” in which only the birthright of inheritance allowed access to land and honorable positions in the army and the church (p. 426). Bell argues that in postindustrial society, one principal of stratification, ascription, is replaced by another, achievement (p. 426).

More recently, Ronald Inglehart (1997) reformulated modernization theory, emphasizing four points: (1) change is not linear, (2) modernization theory is not deterministic, (3) modernization theory is not interchangeable with Westernization, and (4) “democracy” is not an inherent aspect of modernization (pp. 10–11). His main contention is that “technological and economic changes tend to be linked with specific types of cultural, political and social change” (p. 11), and these changes move in theoretically coherent and predictable ways. According to Inglehart and Welzel (2005), modernization has changed gender roles, religious

orientations, consumer patterns, working habits, and voting behavior, so that they are increasingly matters of personal choice (p. 3).

Aspects of critical theory also resonate with modernization theory. Following from Weber, Jürgen Habermas has focused on the undesirable consequences of increasing rationalism, Giddens (1990) on “modernity,” and Ulrich Beck (1992) argued that modern society is increasingly a risk society because of the hazards and uncertainties created by modernization. Another strand of social theory—reflexive modernity—argues that the foundations of the traditional social order are dissolving, undermining social identities and societal expectations, thus destabilizing contemporary societies. Beck and Elisabeth Beck-Gernsheim (2002) were also concerned with the rise of “individualism,” and they posed the question of whether modern citizens are in the process of being released from the forms of industrial society (class, social layer, occupation, family, and marriage).

Similarly, strands of postmodernism are similar to modernization theory in that postmodernists see worldwide processes dismantling older social structures. Postmodernists argue that modernism has run its course and industrial societies are entering a postmodernist phase characterized by “relativism” and a decline in the power of dominant social discourses. But postmodernism has a seemingly contradictory position regarding modernization: On the one hand, it celebrates the withering away of what it sees as capitalist, colonial, patriarchal, and racial hegemonies, but on the other hand, it celebrates cultural differences in ways of knowing, implying that these cultural differences are large and enduring.

Debates Surrounding Modernization

Modernization theory permeates a diverse range of research fields. In many of these, modernization provides the framework for research and has spawned much argument, with researchers endeavoring to substantiate or refute hypotheses that can be sourced to modernization theory. There are debates about meritocracy, secularization, changes in socioeconomic inequalities in education, social mobility, and the importance of class, religion, and region on political behavior.

The meritocracy debate can be understood within the context of modernization theory. The theory implies that cognitive ability is becoming increasingly important in contemporary industrialized societies. Levy (1966) argues that modern societies

increasingly require “experts,” and cognitive ability is involved in the selection of who these will be (p. 218). One of the major contentions of modernization theory is that as societies become more “modern,” religion declines and societies become more secular (Bruce, 2002). Modernization theory also implies that the links between socioeconomic origins and educational attainment will decline over time. Contrary to modernization theory, a variety of arguments are based on the assumption that socioeconomic inequalities in education are not declining. A prominent example is Yossi Shavit and Hans-Peter Blossfeld’s *Persistent Inequality* (1993), which argues that there has been no change in the relationship between social origins and educational attainment over the past century in the transition from one educational level to the next.

A central contention of modernization theory is that modern societies are becoming more open, that is, they have more social mobility. Putting this another way, socioeconomic or social class origins are less important as social selection is based on more rational criteria. Cross-national studies on mobility were motivated by the American exceptionalism thesis, that more modern societies—with the United States as the archetypical modern society—show higher levels of social mobility (Lipset & Zetterberg, 1959). After it was found that the American exceptionalism thesis could not be supported empirically, the Lipset–Zetterberg thesis became prominent, contending that the patterning of social mobility is much the same in industrialized countries that have reached a certain level of industrialization although the extent of mobility in different countries is likely to be related to the rates of industrialization and urbanization (Lipset & Zetterberg, 1959, pp. 13, 49). The theoretical background to Robert Erikson and John H. Goldthorpe’s *Constant Flux* (1992) is the “liberal thesis of industrialism” (pp. 3–9)—which makes much the same arguments as modernization theory—and also the FJH (Featherman, Jones, & Hauser, 1975) thesis that there is no change in the patterning relative mobility over time and few differences between (developed) countries.

Research in occupational attainment has been largely motivated by modernization theory. Blau and Duncan coined the term *heightened universalism*, which they argue has profound implications for the stratification system increasing the importance of achieved characteristics at the expense of ascribed characteristics, discouraging discrimination and increasing equality of opportunity. It also

encouraged materialism at the expense of spiritualism. The theoretical impetus for more recent cross-national research on occupational attainment is modernization theory.

Much of the work in the domain of political sociology is about changes in the political loyalties of class and other social groups, generating concepts such as *class dealignment* and *class realignment*. These changes are attributed to increased prosperity among working-class voters, declines in class socialization, the expansion of education, and other factors. In the 1960s, the “embourgeoisement” thesis endeavored to explain the decline in working-class support for the British Labour party. Furthermore, political science has a strong focus on partisan dealignment—a weakening of party loyalties and an increase in the portion of voters without a party loyalty—and partisan realignment: a change in partisan loyalties. These processes have been linked to social processes such as the expansion of education and a decline in the role of the family in political socialization.

Space precludes detailing debates in other areas in which the effects of modernization may be occurring. For the labor market, there are debates about changes over time in the gender gap in income, which appears to be declining. Similarly, there appears to be a decline in occupational segregation by gender; and with respect to marriage and partnering, it seems that occupational class, religion, and ethnicity are in many industrialized countries less important influences on selection of the marriage partner, while educational endogamy appears to be increasing.

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See also Cosmopolitanism; Economic Development and Education; Globalization and World Society

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MONTAIGNE, MICHEL DE

Michel Eyquem de Montaigne (1533–1592) was a French humanist philosopher who drew on his own experiences and ideas in his informal musings, called *Essays*, a genre he is said to have invented (the French term *essais* means “trials” or “efforts”). A diplomat and official during much of his life (for a time, he was mayor of Bordeaux), he devoted his later years to writing. The first volume of his work appeared in 1580, and two more volumes were published in 1588. (An amended edition that includes

notations made prior to his death was published posthumously.)

Montaigne was a supple and skeptical thinker whose ideas influenced philosophers from René Descartes to Claude Lévi-Strauss. He was also a brilliant writer, praised by Ralph Waldo Emerson and Virginia Woolf, among others, for the naturalness and grace of his style.

Although supremely well educated (his father had him tutored in Latin before he learned French), he was also acutely aware of the gaps and limits to his knowledge—thus his famous declaration: “*Que sais-je?*” (“What do I know?”). Critics have referred to him as the first modern man. One subject where the modernity of his ideas is especially noteworthy is education.

Montaigne addresses education indirectly throughout the *Essays*, but the most direct treatment occurs in Volume 1, Chapter 25, “Of the Education of Children.” The essay was originally written as a letter to his friend Madame Diane de Foix, the Countess of Gurson, who was at the time pregnant with her first child.

Montaigne tells the countess that “the greatest and most important difficulty of human science is the education of children” (p. 172). He goes on to advocate for a disinterested program and to warn against living vicariously through her children: “Not having chosen the right course, we often take very great pains, and consume a good part of our time in training up children to things, for which, by their natural constitution, they are totally unfit” (p. 173). He follows with a series of admonitions on what he sees as the best method of teaching and learning. Here is a sample from this long and often digressive exposition:

Let the master not only examine [his pupil] about the grammatical construction of the bare words of his lesson, but about the sense. (pp. 175–176)

Let him [the master] make him examine and thoroughly sift everything he reads, and lodge nothing in his fancy upon simple authority and upon trust. (p. 176)

Let him [the pupil] examine every man’s talent; a peasant, a bricklayer, a passenger: one may learn something from every one of these in their several capacities. (p. 183)

I would have his outward fashion and mien, and the disposition of his limbs, formed at the same time with his mind. (p. 198)

The lad will not so much get his lesson by heart as he will practice it: he will repeat it in his actions. (p. 202)

Let but our pupil be well furnished with things, words will follow but too fast; he will pull them after him if they do not voluntarily follow. (p. 203)

As these statements make clear, Montaigne anticipates many of the principles associated with modern progressive education, a resemblance noted as early as the 1930s. His style bears comparison to that of the American pragmatist philosopher and psychologist William James (godson of Montaigne’s great admirer Emerson) in his *Talks to Teachers*. Montaigne’s focus on context and experience over rote learning would be central to the work of James’s disciple, John Dewey, who codified the idea of “learning by doing.”

But Montaigne’s pedagogical philosophy is both less systemized and, one might argue, more pragmatic than that of James and Dewey. He often contradicts himself or veers off in unexpected directions. He advises against corporal punishment, for example, but notes that sometimes it may be necessary. He warns against pedantry, yet he is himself replete with quotations from classical sources, something that he is quick to acknowledge. He denigrates an overreliance on book learning, yet he lauds the writing of a great book as the most prized of human accomplishments, above that of having children (possibly owing to the death of five of his six children before they reached adulthood). Montaigne also shows a surprising latitude with regard to a student’s behavior: “Let a young man, in God’s name, be rendered fit for all nations and all companies, even to debauchery and excess, if need be; that is, where he shall do it out of complacency to the customs of the place” (p. 200).

Montaigne’s awareness that what is considered acceptable behavior can vary widely according to the “customs of the place” is a theme throughout the *Essays* (see especially his essay in Volume 1, Chapter 30, “Of Cannibals”). But his tolerance for difference exists within definite parameters. He argues that values and judgment should be taught early, so that exposure to “debauchery and excess” will not debauch character. Montaigne also represents the student’s early training as the groundwork on which his future learning will be erected:

After having taught him what will make him more wise and good, you may then entertain him with the

elements of logic, physics, geometry, rhetoric, and the science which he shall then himself most incline to, his judgment being beforehand formed and fit to choose, he will quickly make his own. (p. 190)

The issue of judgment is central to teacher as well as student. Montaigne believed that it is the teacher's job to determine the proper balance between molding a student and allowing him independence.

For the modern reader, the masculine emphasis in the *Essays* is one of its most *unmodern* elements. Montaigne seemed convinced that the countess would have a boy ("You are too generous to begin otherwise than with a male" [p. 172]) and showed a marked disregard for female education. Yet toward the end of his life, he informally adopted a young woman, Marie de Gournay, who had written to him about his work and on whom he lavished a great deal of guidance. (She would go on to write about female education herself.) Montaigne's relationship to Marie de Gournay seems in keeping with his contradictory nature and with his acknowledged "humility"—his sense that he was imperfect, bound by the limitations of being human, and of the constraints associated with a given time and place.

To teach, according to Montaigne, is to offer students a basic grounding in moral and intellectual principles and then supply the tools for them to shape themselves further, according to their interests and disposition. The *Essays* are a demonstration of this method. Montaigne returns continually to himself as a touchstone for his commentary, both to supply examples from his own experience and to demonstrate the process that he advocates: To teach, in other words, is also to learn.

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See also Dewey, John; Emerson, Ralph Waldo; James, William; Locke, John

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MONTESSORI EDUCATION

The Montessori education method is named after Maria Montessori (1870–1952), the first licensed female Italian physician who became known for her contributions to early childhood and special education. Having fought hard to be taken seriously in a male-dominated world that positioned her as only an attractive, graceful female educator, Montessori became one of the best-known women to contribute to contemporary educational theory. After opening her first school in 1907, Montessori devoted her life to promoting her education method and setting up Montessori schools in Europe, India, and the United States. Currently, there are more than 3,000 Montessori schools in more than 80 countries. This entry focuses on the foundational ideas and criticisms of Montessori education and considers Montessori's legacy.

Montessori's Educational Ideas

Montessori's training in science taught her to be a good observer and to seek empirical evidence to support or refute hypotheses. This training served her well, helping her discover that children placed in her medical care in an asylum were seeking to learn. She turned to other medical doctors to help her develop methods for educating children with special needs and found that help in France with two doctors seeking to educate deaf children, Jean-Marc-Gaspard Itard (1775–1838) and his student Édouard Séguin (1812–1880). She used their ideas to develop a method based on teaching children abstract concepts, broken down into sequential steps, with concrete materials they can manipulate, and using their multiple senses to help them understand. She added that the child's learning should be self-directed, with the teacher's role to be an observer who helps direct

the children to material based on their interests. Montessori's genius was in understanding that children of all ages and abilities have a strong desire to learn and that the method she developed for educating children with special needs is applicable to all children.

One of Montessori's biographers, Rita Kramer (1976), offers a

list of ideas, techniques, and objects familiar to everyone in the field of childhood education today, all of which go back to Montessori's work at the start of the [20th] century, all of which she either invented or used in a new way. (p. 373)

In parentheses are current examples of her ideas. These ideas, techniques, and objects—which are the basis of the Montessori education method and are employed in Montessori schools—include the following:

- The concept that children learn through play, and the development of “educational” toys
- Child-size furniture and equipment (brooms, mops, etc.), cubbies and shelves the children can reach, hooks they can reach to hang up their coats and sweaters
- The “open classroom” and the “ungraded classroom” (multiage classrooms where children remain in the same classroom for three years)
- The idea that children should be free to choose their own work and follow their interests and work at their own pace (mastery learning)
- The idea that children should be allowed to work together (peer tutoring) or alone as they desire
- The idea that the child is not just a smaller version of the adult
- The observation that children are learning from birth on
- The significance of early stimulation for later learning and the implications of this for children who are impoverished (Head Start Program, an early-childhood program started in the United States by former president Lyndon Johnson for low-income children)
- The importance of the environment for learning
- The idea that children take real pleasure in learning and that real learning involves the ability to do things for oneself
- The idea that children will establish their own order and quiet if given interesting work to do and that imposing immobility and silence on children hampers their learning
- The idea that what a child does is work and is significant and should not be interrupted unless absolutely necessary, so that the child is able to finish the work to completion
- The idea that the child's learning material should be interesting, attractive, and self-correcting
- The concept of “sensitive periods” for learning and “reading readiness”
- The idea that the school must be part of the community and parents should be involved for their child's education to be effective (parent education)
- The concept that every child has the right to develop to full potential and that schools exist to implement that right. (Adapted from Kramer, 1976, pp. 373–374)

Montessori helped us understand in important, new ways that children are able to concentrate for extended periods of time and learn a great deal if given the opportunity to do so. She showed that we could create schools that are structured so that children learn to be self-directed, self-disciplined, and self-controlled, and that foster their love of learning.

Criticisms of the Montessori Method

William Kilpatrick, a former student of John Dewey (1859–1952), wrote *The Montessori System Examined* in 1914, based on an examination of the English translation of Montessori's *The Montessori Method* and one observation of a Montessori classroom in Rome. His critique of Montessori's ideas, positioned as an impartial analysis despite his loyal support of Dewey, has been pointed to as a key reason why Montessori schools essentially disappeared from the United States after an initial warm reception and did not return until reintroduced by the educator Nancy Rambusch in the 1950s.

One aspect of the Montessori method that Kilpatrick praises is her application of science to education. In Montessori's view, teachers should have a scientific attitude and keep records of their students as they move throughout the classroom and choose their work. Kilpatrick agrees with her that children need to be studied in order to develop a scientific pedagogy, but he reproaches Montessori for overgeneralizing her observations, which were limited to Italian schools.

Kilpatrick criticizes Montessori for not being up-to-date on educational theory. In fact, Kilpatrick suggests that her ideas are not novel ideas but,

instead, can be traced to Jean-Jacques Rousseau (1712–1778), Johann Heinrich Pestalozzi (1746–1827), Friedrich Froebel (1782–1852), and Dewey. For instance, Kilpatrick asserts that Montessori's idea that “education is a development from within” is an idea that harkens back to Rousseau, Pestalozzi, and Froebel and that Rousseau, Froebel, and especially Dewey should be credited with the notion of child liberty. Kilpatrick does not recognize that Montessori's training was as a medical doctor and that she approached education through medicine, not educational theory. Despite such criticism, Montessori's work on the psychology of the infant and the young child proved to be ahead of its time, influencing psychologists such as Jean Piaget (1896–1980), Anna Freud (1895–1982), and Jerome Bruner (1915–).

Kilpatrick also criticizes Montessori's “didactic apparatus,” the concrete materials she designed to teach basic concepts, as too formal and as offering little variety. Montessori tested these materials to see what children were drawn to and at what age they were drawn to them, and recommended discarding items that were shown to be not attractive to children. Kilpatrick's criticism notwithstanding, Montessori's approach to teaching concepts continues to be incorporated into 21st-century education: For instance, “educational toys” that are found in preschool classrooms, and in many homes, reflect her philosophy, and her development of concrete materials to teach abstract concepts is an idea used in many elementary math classes today.

Montessori has also been criticized for attaching her family name to a method of education and for seeking to maintain the right to train teachers in her method of education. Others have argued that Montessori's emphasis on method and on teacher training has been key to the continued existence and quality of Montessori schools today. Contemporary Montessori schools can further ensure quality by hiring teachers who are licensed by the AMS (American Montessori Society) or who have graduated from the AMI (Association of Montessori International) certified teacher-training programs and by purchasing materials designed by Montessori.

Legacy

Although Montessori strived to be politically neutral, her schools became associated with several of the political movements of her time. For example, because she moved to Barcelona, Spain, and

established schools there in the early 20th century, her schools became associated with the Catalonia uprising and the Spanish Civil War. In the 1920s, Montessori accepted an invitation from Benito Mussolini, Italy's Fascist prime minister, to have her schools become Italy's state-sponsored schools. As a result, her schools became associated with the Fascist Party. And in the 1930s, when Mussolini joined forces with the German leader Adolf Hitler, the reputation of her schools fell even further, even though Mussolini and Hitler closed them down long before World War II erupted.

Montessori's actual legacy presents a different picture, as noted by Thayer-Bacon (2013) in her book *Democracies Always in the Making: Historical and Current Philosophical Issues for Education*:

Montessori regularly offered training programs throughout Europe, America, and India, and was planning a trip to parts of Africa the year she died; people from all over the world enrolled in her teacher training programs wherever they were offered; she spoke more and more in her senior years about how her educational method connected to the possibility of world peace. This legacy earned her three nominations for a Nobel Peace Prize (1949, 1950, 1951), prior to her death in 1952. (p. 46)

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See also *Century of the Child, The*: Ellen Key; Childhood, Concept of; Dewey, John; Education, Concept of; Froebel, Friedrich; Martin, Jane Roland; Peace Education; Piaget, Jean; Progressive Education and Its Critics; Rousseau, Jean-Jacques

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MORAL DEVELOPMENT: LAWRENCE KOHLBERG AND CAROL GILLIGAN

The term *moral development* most properly describes a natural, long-term process of psychological growth with regard to the individual's capacity to think about moral problems. According to moral development theory, children start out with simplistic, local ideas about what counts as an acceptable moral reason. If social conditions favorable to moral development are present during childhood, adolescence, and early adulthood, moral reasoning will become more abstract, universal, and flexible. Understood in this sense, moral reasoning is indissociable from Lawrence Kohlberg's theory of moral development. Elaborated, tested, and applied in a research program spanning several decades and involving thousands of researchers and educators around the world, Kohlberg's theory of moral development, also referred to as "cognitive moral developmentalism," and its school-based application, the cognitive-developmental approach to moral education, remains a model of partnership between rigorous psychological research and educational innovation.

Of all the extensive critical attention that Kohlberg's theory received, Carol Gilligan's has by far been the most enduring. Gilligan pointed out that Kohlberg had studied only boys and argued that therefore cognitive moral developmentalism does not accurately portray the moral reasoning of women. Her work prepared the way for the emergence of a substantial body of work on the ethic of care. The so-called Kohlberg–Gilligan debate continues to be a key point of reference in moral development theory. This entry describes these important contending positions.

Kohlberg's Theory of Cognitive Moral Development

When Kohlberg entered the field of social psychology in the 1950s, two schools dominated: behaviorism and psychoanalysis. Kohlberg regarded both of these approaches as philosophically suspect as theoretical frameworks for the psychological study of morality. In the United States at that time, Jean

Piaget's structural developmentalism was still rather marginal, but Kohlberg latched on to it because it provided the theoretical resources to develop a theory of moral psychology that could overcome the shortcomings that Kohlberg saw in behaviorism and psychoanalysis: a general neglect of the role of responsibility in defining moral behavior and a commitment to moral relativism.

The application of the basic cognitivist orientation of structural developmentalism to the domain of moral cognition allowed Kohlberg to argue, first, that the moral domain could not be coherently conceptualized except as a domain of individual responsibility. What made structural developmentalism so different from behaviorism was that, instead of dismissing subjective mental experiences (i.e., an individual's conscious thoughts, emotions, intentions, reasons for acting, etc.) as unobservable and hence scientifically uninteresting, structural cognitivism takes as its primary data the subjective meanings that individuals ascribe to their social experiences. Kohlberg referred to this theoretical standpoint as *phenomenalism*: Psychologists should take the way moral concepts are articulated in ordinary language as the measure of the validity of moral concepts in psychology. According to phenomenism, behaviorist and psychoanalytic approaches to moral psychology appear to lack an adequate language for psychological investigation in the moral domain. The reason for this, Kohlberg thought, was that an agent's conscious intentions in performing an act are the sine qua non of assessing the act's moral status, of determining whether it makes sense to describe an act as "moral" at all. For example, a girl takes a pencil and puts it in her pocket. All things being equal, if she knows that the pencil belongs to someone else and didn't get permission from the owner to take it, then she is stealing (immoral). If she did get permission, then she is borrowing (amoral). If she got permission with the intention of using the pencil to help a friend with homework, then the act is prosocial (moral). For Kohlberg, then, any coherent conception of *moral* psychology had to be primarily concerned with the reasons that ordinary moral agents would give to explain and justify their acts.

In addition to the idea of cognitive stage development and the primacy of subjects' explicit understanding in psychological research, a second attractive aspect of Piagetan structural developmentalism for Kohlberg was that, when brought to the field of research on moral cognition, it seemed to pose an exciting new, empirically grounded challenge to

moral relativism. Piagetan structural developmentalism holds, as a central tenet, that the thought systems that human beings use to represent the world are not static. As people actively attempt to make sense of their environments, their thought systems become more sophisticated, more flexible, more effective—in a word, more “adaptive.” According to structural developmentalism, that is, the experience of trying to solve problems generates not just different ideas about the way the world is but whole different ways of seeing the world and of interpreting one’s experiences. Moreover, the cognitive changes that Piaget’s theory of cognitive development describes follow a predictable pattern of growth insofar as all human beings have the potential to pass through the stages of cognitive development and, as long as they are afforded a minimum experience in solving problems (e.g., through formal education), most do. Bringing Piaget’s conception of development to the domain of *moral* thought, Kohlberg hypothesized that there exists a process of moral development that, exactly like the process of cognitive development Piaget described, begins with simpler, less adaptive modes of thought for thinking about moral problems and evolves toward more adaptive ones. The description of this process became Kohlberg’s stage theory of cognitive moral development, summarized in Table 1. The theory was based on a considerable volume of empirical research in which children of different ages were asked to reason about moral dilemmas; the famous “Heinz dilemma” is discussed below.

In Kohlberg’s stage theory, the most crucial developmental transition occurs between the Level 2 conventional perspective and the Level 3 postconventional perspective. Strictly speaking, it is only when people begin to reason at the postconventional level that they can be said to be engaging in “moral” reasoning at all. This key distinction, between “heteronomous” moral thinking and postconventional or “autonomous” morality, constitutes another theoretical debt to Piaget. Indeed, Kohlberg’s theory can be seen as a refinement and overhaul of Piaget’s work on the development of children’s understanding of moral norms. When moral rules are understood heteronomously (i.e., as dependent on outside influences), their legitimacy is based on being established and enforced by some social authority, be it a god, society as a whole, or a person who is admired and respected. Piaget thought that all young children begin with a heteronomous understanding of moral rules. Children feel compelled to conform their

behavior to a moral rule like “No hitting!” because they respect and fear adults’ power to set down the rules and to impose sanctions if an adult’s will is not obeyed. They have no consideration for the purpose or social function of moral rules. Hence, from the perspective of heteronomous morality, “Because mom says so!” is a coherent and convincing reason not to hit. According to Piaget, heteronomous morality characterized in this way as blind obedience to an authority constitutes the “morality of constraint.” By contrast, when moral rules are understood autonomously, their legitimacy is based on a pragmatic understanding of the social roles that moral rules play in the economy of interpersonal relations. This is why Piaget also refers to autonomous morality as the “morality of cooperation.” No longer arbitrary dictates commanding blind obedience, moral rules become, from the perspective of autonomy, social arrangements between equals who have both individual interests (e.g., bodily integrity and property rights) as well as collective interests (e.g., solidarity and social stability). Moral rules represent a consensual agreement about how the balance of tensions between the individual and the collective can thus be renegotiated, adjusted, and even rejected if it no longer serves the goals of mutual respect and cooperation. Now, hitting is wrong not only because of its negative intrinsic effects (pain, injury, etc.) but also because negotiated settlements to interpersonal conflicts are more stable than solutions imposed by the use of violence.

Owing in large part to Piagetan structural cognitivism’s gradual displacement in social and cognitive psychology by an array of competing heuristic, intuitionist, and personological models of social cognition, cognitive developmentalism is no longer the dominant theoretical paradigm in moral psychology. Over the three decades leading up to the turn of the 21st century, though, it stood essentially alone as the starting point for theory and research in the field. Stage theory’s magnetism for a generation of moral psychologists was that it combined psychological rigor with a clear moral mission. Essentially, Kohlberg’s theory boldly asserts that moral psychology can mediate the complex, divisive, and often ideologically charged moral disputes over tired moral issues such as abortion, capital punishment, and euthanasia. Assume, following Kohlberg, that the various ideological and philosophical standpoints on socio-moral problems (liberalism, republicanism, socialism, conservatism, deontology,

Table 1 The Levels and Stages of Moral Development According to Kohlberg**Level 1: Preconventional morality**

Individual-centered conception of morality

Stage 1: Obedience and punishment orientation

Moral norms are to be obeyed out of blind obedience to the authorities that establish them. An important reason to obey moral norms is to avoid retribution from moral authority figures.

Example: "If you don't share, you'll get in trouble."

Stage 2: Instrumental purpose and exchange orientation

An act is morally justified when it is warranted in an economy of instrumental exchange between equals. Morality is like a marketplace in which acts that harm others' interests deserve retribution and those that further individual interests generate a debt.

Example: "An eye for an eye and a tooth for a tooth."

Level 2: Conventional morality

Socially centered conception of morality

Stage 3: Peer and personal relationships orientation

Moral behavior is defined in terms of conformity to expectations or standards shared by a community of immediate peers or generated by social roles, such as being a neighbor, friend, or sibling. Not wanting to let others down and to appear morally upright in others' eyes, as well as one's own, are convincing moral justifications.

Example: "Be a good boy and help your sister."

Stage 4: Social system maintenance orientation

Moral norms are understood as serving the purpose of upholding the social order. Moral justification typically appeals to the importance of keeping the community functioning, serving society, and avoiding social tumult and instability.

Example: "Homosexuality is wrong because it undermines the institution of the family."

Level 3: Postconventional morality

Reason-centered conception of moral norms

Stage 5: Individual rights orientation

Morality serves the purpose of promoting individuals' rights, such as the right to life, the right to free association, and the right to free religious belief and practice. Existing laws, norms, and rules can do a better or worse job of promoting and protecting rights and freedoms. Norms that are effective at promoting rights should be embraced. Norms that are ineffective in this regard should be rejected or revised.

Example: "Banning abortion is unconscionable because it would deny women's right to control their bodies."

Stage 6: Universal principles orientation

Moral requirements are understood in terms of abstract universal principles that may be expressed as general universal duties, such as the duty to be fair, to respect human dignity, and to treat people always as ends rather than means. Social norms are to be assessed in terms of these principles. Only norms that are consistent with these principles are truly "moral" norms. As rational beings, all humans have an obligation to respect moral norms.

Example: "Refusing to assist terminally ill patients to end their lives is an affront to human dignity."

Source: Adapted from Kohlberg, Levine, and Hewer (1981).

consequentialism, care ethics, etc.) are best explained not in terms of a prioritization of certain moral values (e.g., equality or justice) over others (e.g., loyalty or solidarity) but as representing, more fundamentally, more or less adaptive modes of moral thinking. By providing a framework for analyzing the qualitative differences between various manifestations of moral thinking in terms of their *cognitive adequacy*, moral development theory could be a powerful instrument for undermining the belief that competing moral perspectives are not merely equivalent but different, and relative to a particular culturally or socially informed moral outlook. Kohlberg's theory suggested strongly that some moral standpoints are cognitively superior to others, and it was precisely in this way that moral development theory would end up "defeating relativism," or so Kohlberg thought. A half-century on, such optimism about moral psychology's potential to move social discourse forward is scarcely imaginable. Kohlberg's legacy does continue to be felt, however, in the well-established practice of using semiformal dilemma discussions in moral education. It is to Kohlberg's account of the influence of structured, peer-led moral debates on moral development that we now turn.

The Kohlbergian Approach to Moral Education

Throughout his career, Kohlberg made considerable efforts to link the theory of cognitive moral development with educational practices. These efforts can be situated at the institutional level and at the classroom level. With Piaget, Dewey, and other educational progressivists, Kohlberg was sensitive to the role that the judicious exercise of social authority can play in helping people achieve a rational understanding of morality and in developing their capacity to see the faults in ineffective, harmful, unfair, or arbitrary social norms. Through research, public advocacy, and program implementation and evaluation, Kohlberg used the theory of cognitive moral development as a basis to critique common practices around establishing, promulgating, and enforcing rules in public institutions. Whether on the part of a teacher, school principal, prison guard, judge, or parent, Kohlberg regarded disciplinary practices that depend primarily on the assertion of authority (e.g., "Do it because I say so!") or on the distribution of extraneous punishments and rewards (e.g., "Do it, or you'll stay after school!") as unfavorable to young people's cognitive moral development.

The culmination of Kohlberg's work to promote cultural change at the institutional level was the Just Communities Project. Tried in schools and youth detention centers with varying degrees of success and longevity, the Just Communities Project aimed to create an atmosphere favorable to moral development and the acquisition of democratic competencies through the introduction of permanent decision-making mechanisms that operate according to the principles of self-government and direct participatory democracy. Cognitive moral development theory's greater educational legacy, though, is the new scientific footing it gave to an old approach to moral education: dilemma analysis.

Box 1

The Heinz Dilemma

Heinz's wife was near death, and her only hope was a drug that had been discovered by a pharmacist, who was selling it for an exorbitant price. The drug cost \$20,000 to make, and the pharmacist was selling it for \$200,000. Heinz could only raise \$50,000, and insurance wouldn't make up the difference. He offered what he had to the pharmacist, and when his offer was rejected, Heinz said he would pay the rest later. Still, the pharmacist refused. In desperation, Heinz considered stealing the drug. Would it be wrong for him to do that? Should Heinz have broken into the store to steal the drug for his wife? Why or why not?

Source: Adapted from Kohlberg, Levine, and Hewer (1981).

Kohlberg's theory poses a challenge to the standard way in which dilemmas have tended to be used in moral education since at least the Scholastic period in the Western tradition. Still largely in favor in post-secondary professional and applied ethics education, this approach is tutor led and principle focused. The instructor presents learners with a moral problem like the Heinz dilemma (see Box 1) and illustrates how the application of different moral principles, precepts, or obligations yields different resolutions. For instance, in the Heinz dilemma, if one prioritizes Heinz's obligations to his wife in virtue of being her husband, then one is led to the conclusion that Heinz should steal the drug. The prioritization of the property rights of the pharmacist yields the opposite conclusion. In this way, the standard approach to dilemma analysis aims to introduce learners to a multiplicity of abstract moral principles and assumes

that they will learn to apply those moral principles judiciously by observing their manipulation by a wiser and more experienced adult.

From the point of view of cognitive moral developmentalism, this instructor-directed approach to moral dilemma analysis lacks developmental sensitivity. Its primary weakness is that it fails to take into account that the moral principles introduced by the instructor may be beyond students' cognitive reach. For example, according to Kohlberg's theory, a postconventional individual rights perspective (i.e., Level 3, Stage 5) on the Heinz dilemma is largely incomprehensible for a student who tends to view moral problems from a conventional peer and personal relationships orientation (i.e., Level 2, Stage 3). One of the tenets of Piagetian cognitive development theory is that the mechanism of cognitive development is experiences of "disequilibrium" or cognitive conflict that in some way challenge the individual's current cognitive orientation. In research on moral development and dilemma discussions, the operative assumption, referred to as the "plus-one convention," has been that cognitive conflict favorable to moral development is induced when children and young people are given opportunities to reflect on styles of moral reasoning about one stage above their own current stage, a stage disparity that exists in most age-based class groups. These experiences allow them to gain rational insights into the cognitive advantages of that higher stage, and perceiving these advantages, they are motivated to reject their current orientation and move on to the next higher stage. Extensive research on the induction of cognitive conflicts in moral education, which supports and refines this basic hypothesis, indicates that peer-directed dilemma discussions are more favorable to moral development than instructor-directed dilemma analyses, especially when they are characterized by a dialogic style of communication (i.e., emphasizing reciprocal respect for others' points of view and involving a genuine attempt to reach an agreement).

Carol Gilligan and the Kohlberg–Gilligan Debate

In her best-selling book *In a Different Voice* (1982), Carol Gilligan argued that the schema Kohlberg used to classify styles of moral reasoning in terms of their cognitive adequacy reflected a characteristically male tendency to prioritize the value of justice when faced with a moral problem. (She pointed out that it was pertinent that Kohlberg had not included

women in his research sample.) Because women, according to Gilligan's research, prioritize the value of caring over justice, Kohlberg's theory is biased against women. In advancing this claim, Gilligan associates Kohlberg's theory with a long line of philosophers and psychologists in the Western intellectual tradition (e.g., Augustine, René Descartes, Jean-Jacques Rousseau, and Sigmund Freud) who have posited qualitative gender differences in morality and consider the moral orientation typical of women to be limited, inferior, and even childish.

Careful reviews of the literature on morality and gender since the mid-1980s, for example, by Lawrence Walker, suggest that Gilligan's claims about gender differences cannot be sustained. Despite its empirical limitations, Gilligan's critique of Kohlberg's theory has had a huge influence on the evolution of the field of moral psychology and moral education. First, it was instrumental in pushing cognitive developmentalists to seek cross-gender and cross-cultural empirical validation for the theory of moral development. Second, and at the theoretical level, it led cognitive developmentalism to a fuller appreciation of well-being as a fundamental moral value. Third, as the philosopher Michael Slote has observed, Gilligan's book lent considerable impetus to a whole new approach to ethical reflection, deliberation, and choice, namely, the ethics of care. Now established as a dominant school of thought in normative ethics, care ethics has been advocated and elaborated on by a considerable number of philosophers and educationists—most notably Nel Noddings. In Gilligan's work, care ethicists see a powerful challenge not just to the Kohlbergian conception of the morally developed person but, more broadly, to an ethical and political culture in Western societies that seems to arbitrarily elevate justice, equality, rights, and the individual, while denigrating kindness and caring for others, solidarity, and face-to-face relationships, as essential elements in our descriptions of ethical thinking, ethical choice, and the ethical society.

Bruce Maxwell

See also Autonomy; Feminist Ethics; Moral Education; Noddings, Nel; Piaget, Jean; Virtue Ethics

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MORAL EDUCATION

Any society must concern itself with the socialization of its citizens. This begins in childhood, and schools are critical to this process. Socialization and moral learning inevitably take place in schools, and there is a “hidden curriculum” that models which behavior is considered appropriate or “normal.” This entry will focus on the theory and practice of intentional moral and character education. After a brief sketch of its conceptual roots in Greek philosophy and developments until the early 20th century, some major models of school-based moral education will be described that dominated the discourse more recently: values clarification, Lawrence Kohlberg’s cognitive-developmental approach, and contemporary comprehensive character education.

History

Many of the dominant strands and controversies in the contemporary understanding of morality and the goals of moral education in the United States and

other regions in the Western world can be traced back to the ancient Greek philosophers. Socrates and Plato believed that a person who knows the good will do the good, and so their conception of moral education focused on imparting understanding and reasoning skills so that individuals could gain this requisite knowledge—a process spelled out in detail in Plato’s famous dialogue *The Republic*. The claim was also made in this work—the focus of which was the nature of the perfect human community and the characteristics of its citizens—that justice is the key desideratum of the ideal state.

The Platonic approach is echoed by modern approaches to values and moral education that emphasize reflection and the development of moral judgment, and that typically avoid the term *virtues*. Aristotle, in contrast, argued that only the cultivation of virtuous behavior, the practice of virtues and relevant habits, would result in a virtuous life. This philosophy of virtues provided the groundwork for conceptions of character education that have persisted down the years. However, just as the differences between these philosophers did not overshadow their basic agreement that character must be actively cultivated, so too have modern approaches to moral and character education arrived at a common understanding that the educational enterprise is about the complete person and that “good character consists of knowing the good, desiring the good and doing the good—habits of the mind, habits of the heart, and habits of action. All three are necessary for leading a moral life; all three make up moral maturity” (Lickona, 1991, pp. 50–51).

From the Middle Ages down to modern times, Christian thought dominated the philosophy and practice of moral education in European societies and in North America, and it promulgated the view that character is not independent from religious faith. Looking at the status and practice of moral education in North America, the intersection of moral and religious thought was evident from colonial times to the 19th century, when, for instance, the American Bible Society was founded in 1816. It became an advocate for the use of the Bible for religious as well as moral education in schools. The extremely influential McGuffey Readers (from 1836 to about 1920) continued in this direction, for they included biblical stories and heroic tales to teach moral lessons while also serving as a general series of school books for reading and arithmetic.

In the late 19th and early 20th centuries, a number of factors undermined the faith-based consensus on character education; most important, waves of non-Protestant immigrants led to intensifying trends of pluralism and an increasing secularization in American society.

At the same time, empirical research challenged the assumption that the common practice of character education actually leads to the expected effects. The Character Education Inquiry, conducted from 1924 to 1929 and published by Hugh Hartshorne and Mark May in the *Studies in the Nature of Character* (1928–1930), had results that led the authors to the conclusion that moral action depends on situational factors and is not the expression of a stable trait that could be called “character,” and that the prevailing pedagogy for inculcating morals was ineffective and perhaps even harmful. The study hit the field of research on character education hard; the number of publications dropped dramatically in the 1930s and 1940s. Traditional approaches lost their persuasive power because the very notion of character itself was called into question.

Values Education and the Cognitive-Developmental Approach to Moral Education

A new era in values and moral education began in the mid-1960s, when two approaches in the tradition of Socrates and Plato entered the scene and would dominate the field for the next 20 years: Rathes, Harmin, and Simon (1966) coauthored the first statement of the central ideas and the pedagogy of values clarification, while the developmental psychologist Lawrence Kohlberg (1927–1987) published his first application of the cognitive-developmental theory of moral development to the field of moral education. In the years that followed, values clarification was wildly popular with teachers but suffered under severe theoretical deficiencies, which eventually discredited the approach dramatically, while Kohlberg’s approach, with its strong theoretical base, revolutionized the academic discourse but had only limited influence on the educational practice in schools and beyond.

Values clarification starts from the position that if many of the ills of modern society that affect the individual are to be corrected, then first these individuals must receive help in clarifying what they personally cherish, which standards for a successful life they hold, and which goals in life they would

set. According to Rathes et al.’s (1966), unusually demanding definition, only what has been chosen freely and after thoughtful consideration, and what the subject is willing to affirm publicly and actually lives by, is considered a value. The acceptance of values is left to the individual; no universal or commonly accepted standards were introduced; no philosophical concepts or social norms were directly taught. In the practice of values clarification, teachers were expected to keep a neutral stance and to act as facilitators in students’ processes of reflecting on their own values, mainly by asking questions called “clarifying responses.”

The decline of values clarification began in the early 1980s, partly because the effectiveness record was not convincing; many of the target-dependent variables (e.g., self-concept, dogmatism, values-related behavior) showed no significant changes in most evaluation studies. More damaging to the approach, however, were thorough philosophical and psychological analyses pointing to major flaws at the core of the program: ethical relativism, the lack of a distinction between moral and nonmoral values, the dangerous proximity to therapeutic techniques, and the potential threat to privacy rights in the case of instructional strategies that coerce students to publicly talk about very intimate details. Eventually, values clarification vanished from North American schools and became taboo. Any conversation about the utility of pedagogical strategies that encouraged reflection on values and on making decisions freely and carefully was considered preposterous.

As part of the widespread move against behaviorism in psychology, Lawrence Kohlberg tapped into the developmental work of Jean Piaget. Kohlberg’s theory of moral development (1984) focused on what behaviorism treated as a “black box”: the reasoning processes. His cognitive development approach to moral education developed into a forcefully grounded and influential counterweight to traditional character education and its conformist virtue approach.

In a research program spanning two decades, Kohlberg examined the development of moral judgment through childhood, adolescence, and adulthood. His cognitive-developmental theory claims that individuals move through an invariant series of stages of reasoning that are increasingly adequate in allowing these individuals to solve moral dilemmas and to understand and apply moral principles (Kohlberg, 1984). The details of the theory were

modified a number of times, but the basic structure of the developmental model was supported in a large number of studies around the world, notwithstanding some remaining controversy about the nature and universality of the postconventional stages.

Kohlberg's interest in moral education grew in the late 1960s, when a successful intervention study of a doctoral student, Moshe Blatt, helped spark great interest in utilizing teacher-led, structured peer discussions of moral problems as a major strategy in moral education. Large-scale research projects demonstrated that a series of moral dilemma discussions over several months could produce significant development of students' moral reasoning, especially at the lower developmental levels. Supporting the temporary success of the dilemma discussion approach to moral education, a number of practice guides to leading moral discussion were published and widely used (e.g., Galbraith & Jones, 1976).

However useful classroom dilemma discussions are, it turned out that there are clear limits to an approach to moral education that is restricted to cognitive stimulation, and to the classroom, and neglects questions of what is morally good (as compared with rights and duties) and of moral action in real-life conflicts. Kohlberg was aware of these limits from early on and did advocate for changes in the pedagogical conception. The critical step beyond the classroom and moral discussion as a stand-alone pedagogy was made through the establishment of Just Community programs in schools, beginning in 1974 (Power, Higgins, & Kohlberg, 1989). The programmatic idea was to promote both moral reasoning and a disposition for moral action by addressing real-life conflicts at school. The Just Community approach required a radical rethinking of teachers' roles by introducing strong participatory structures; it aimed at no less than transforming the school culture and building communities with rights and responsibilities for all. The concept was further broadened when the approach was translated from American to European conditions and adapted from the high school level to middle and elementary schools. In addition to the focus on moral reasoning and action, social and civic learning in a broader sense was stimulated: cooperative and participatory skills, competences needed in communication, social relationships, and community building (see Oser, Althof, & Higgins-D'Alessandro, 2008, for accounts of the evolution of the Just Community approach in the United States and Europe). Just

Community programs were also implemented in prisons.

Character Education for the 21st Century

The early 1990s marked the revival of approaches in the field of values and moral education that can be regarded as forms of character education. Times had changed, the political climate was increasingly conservative, and many commentators lamented the weakened role of families in the socialization of children and adolescents. Character education was reintroduced as a remedy for society's debility. Traditional approaches to "character formation," with their Aristotelian focus on direct teaching of virtues, habits, and virtuous behavior, and with the typical battery of pedagogical inculcation strategies, were again promoted, including teaching about and advocacy for core values and virtues, demanding exemplary behavior from teachers, the use of virtuous models in the literature studied, public recognition for those who manifest those values or virtues, other forms of extrinsic praise and reward, behavior training including drill, and rejection of critical reflection of values and of grappling with moral concepts in the lower grades. While getting much public attention (e.g., William Bennett's *Book of Virtues*, 1993, was on the *New York Times* bestseller list for two years), little research evidence supported the effectiveness claims of such strategies. In the academic discourse, the traditional character education pedagogy does not play a significant role anymore.

While the practice in schools often is still limited to occasional events like the celebration of the "virtue of the month," a body of literature on the theory of character education, together with field-tested practice, has grown in strength in the past two decades, and this has lent support for instituting comprehensive programs targeting the cognitive, emotional, and action-related developmental dimensions of the complete person. A breakthrough of this broader conception of character education, one that opened the possibility of reconciling the antagonism between traditional character education and rational and developmental moral education, was initiated by several events: the publication of Thomas Lickona's book *Educating for Character: How Our Schools Can Teach Respect and Responsibility* (1991)—reportedly the largest-selling book in the field to this day; the release in 1992 of the *Aspen*

Declaration on Character Education—a broadly supported position statement; and the creation of the nonprofit Character Education Partnership in 1993 as a national coalition with the purpose of advocating a central role for character development in the education agenda nationwide.

From a moral education perspective, it might be considered either an asset or a problem that this movement draws on a multitude of philosophical and psychological sources that have not always been fully compatible and that, in addition, current approaches mostly work from a broad definition of character that alludes to moral as well as non-moral qualities of the “whole child” and targets “performance character”—nonmoral virtues like hard work, persistence, self-control, and courage—alongside “moral character.”

Under the title “Eleven Principles of Effective Character Education,” the Character Education Partnership (2010) published a set of recommendations for the schoolwide implementation of programs that are theoretically consistent and backed by research in various domains. The principles include the promotion of core values as the basis for good character; a comprehensive understanding of character to include thinking, feeling, and action; and a holistic and intentional approach to character education. This approach includes creating a caring school community, providing students with opportunities for moral action, and using a meaningful and challenging academic curriculum that fosters students’ intrinsic motivation rather than working with extrinsic incentives. Further principles focus on strengthening the role of stakeholders: school staff, school and program leadership, as well as parents and community members. The 11th principle emphasizes the willingness to evaluate the efforts and outcomes of character education programs. One outstanding example of a comprehensive character education approach that meets all these criteria was the Child Development Project of the Developmental Studies Center in Oakland, California, now followed by a streamlined offshoot called Caring School Community (Battistich, 2008).

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See also Adolescent Development; Aristotle; Character Development; MacIntyre, Alasdair; Moral Development; Lawrence Kohlberg and Carol Gilligan; Plato; Values Clarification; Values Education; Virtue Ethics

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MOTIVATION

At the center of most contemporary theories of motivation are assumptions that people act in certain ways based on beliefs about what they want to

do, how important it is to do it, how capable they are of doing it, and why they might succeed or fail at it. These beliefs determine the choice and direction of actions, along with levels of effort, intensity, and persistence. Within the realm of education, discussions of these interrelated beliefs have been central to understanding why students engage or fail to engage in the academic and social activities of the classroom. This entry provides a general overview of current perspectives on motivation, followed by more focused discussions of motivation-related constructs.

Perspectives on Motivation

There are few “grand theories” of motivation that are currently used to explain children’s behavior and accomplishments at school. Rather, theoretical perspectives tend to focus on single constructs that might explain motivated behavior. However, a basic tenet of many of these theories is that people set goals for themselves and these goals determine the direction of behavior and why people do what they do. In turn, motivational beliefs that support decisions concerning goal pursuit are posited to take the form of values, and beliefs about ability, causality, and control. Values reflect the costs and benefits of goal accomplishment, the importance and long-term utility of goal achievement, and the intrinsic pleasure of engaging in goal-directed behavior. Students’ beliefs about their abilities influence what they choose to do and why they persist at certain activities and not others; the stronger someone’s beliefs about ability, the more likely they are to engage in goal pursuit. Beliefs about autonomy and control provide students with a lens for interpreting success and failure and with reasons for engaging in or refraining from future goal pursuit. A central assumption underlying these constructs is that the primary responsibility for goal-directed behavior rests within the individual and that interventions to improve motivation must focus on changing these individual beliefs.

In addition, some theoretical perspectives posit that motivation is a function of interactions with the environment and that goal pursuit is governed not only by self-related beliefs but also by concerns that emanate from social interactions and contextual cues. In this case, theorists recognize the importance of beliefs about belongingness and emotional connectedness to others in supporting goal-directed behavior; engagement in socially valued activities

at school is more likely to occur if students believe that others care about them and want them to pursue socially valued goals. In addition, beliefs about moral and social obligations are believed to influence the outcomes that individuals choose to pursue in a given situation or setting. Based on these perspectives, interventions designed to improve student motivation would focus on promoting an ethic of care within classrooms and schools and enhancing contextual supports and communications to students concerning expectations for behavioral and academic accomplishments.

Goal-Directed Behavior

Needs and goals reflect what it is that individuals would like to accomplish. Both constructs focus on the centrality of the content of individual desires in providing the foundation and initiative for behavior. However, needs are typically defined as intrinsically motivated outcomes that are relatively stable and reflected in basic personality traits. Current theories propose that needs for competence, autonomy, and relatedness are essential in that personal well-being and healthy adaptation are achieved when these needs are met. In contrast, personal goals are typically defined as cognitive representations of desired future outcomes; goals are studied with respect to situation- or task-specific accomplishments. Unlike needs, personal goals can emanate from the individual or from external sources such as teachers or peers. Beyond this basic definition, however, some theorists propose that goals direct efforts toward specific accomplishments, whereas others focus on acceptable levels of accomplishment. Goal dimensions, such as approach–avoidance, ego involved versus task involved, active versus reactive, and proximal versus distal, also are posited to direct behavior in qualitatively different ways.

Several issues surround the work on needs and goals. First, levels of specificity and abstraction are rarely considered in theoretical or empirical work. It is often unclear if researchers are assessing general tendencies or needs as opposed to task- or situation-specific goals. Second, the likelihood that most people are pursuing multiple goals (or needs) simultaneously and that these goals are interrelated and pursued in hierarchical fashion is rarely discussed. Finally, an inordinate focus on conscious cognition has limited considerations that goals or needs operate at the unconscious level and can be primed by contextual and social cues.

Beliefs About Ability

A general set of constructs believed to support goal pursuit reflects beliefs about being able to accomplish tasks. Specific constructs are (a) ability beliefs, which reflect evaluations of overall competence in different areas; (b) expectancies for success, which reflect beliefs about how well one will do on an upcoming task; and (c) efficacy beliefs, which reflect the conviction that one has the ability to accomplish a given task.

Several issues surround the study of ability beliefs. First, questions concerning the level of specificity and the distinct nature of the various beliefs have been posed. For example, critics have questioned the degree to which measurement strategies can adequately differentiate the various types of ability beliefs. Substantive concerns focus on the degree to which these beliefs reflect reactions to performance as opposed to guiding future performance and whether they reflect a generalized belief about the self or beliefs about ability within academic domains or on specific tasks. These beliefs are typically described as being task specific and, therefore, changeable in light of success or failure experiences. However, the malleability of ability beliefs has been questioned given the consistency with which some students persist at or withdraw from goal pursuit regardless of the situation or task.

Beliefs About Causality and Control

The motivational significance of beliefs about causality and control has been guided primarily by attribution theory and self-determination theory. Attribution theory attempts to explain individuals' causal reasoning about why things happen. Weiner's attribution model specifies three categories of reasons that are employed to explain outcomes: (1) stability (Can it happen again?), (2) locus (Was the event influenced by internal or external factors?), and (3) controllability (Can it be controlled?). In turn, causal reasoning is believed to influence subsequent behavioral choices, with beliefs about the stability of a cause influencing expectancy about future events, beliefs about control influencing persistence, and beliefs about causality influencing emotional responses to the outcome. It is clear that people use this type of reasoning to explain their own behavior or that of others, especially in situations involving negative consequences or violations of expectations. However, critics argue that attributions might not

govern behavior similarly in situations not involving unexpected outcomes. Critics also argue that attribution theory is too mechanistic and reductionist: People are simply not as rational or logical in their thinking as the theory implies, nor do they reason in a vacuum that is void of social and cultural influences.

Self-determination theory has expanded the focus on beliefs about control to consider the degree to which reasons are internalized or reflect self-determined action. In this case, reasons are posited to reflect a continuum of perceived control, ranging from extrinsic to intrinsic: some goals might be pursued for social reasons (e.g., to please others or to avoid punishment), whereas others might be pursued for their own sake, without the need for external prompts or rewards. These latter reasons are believed to reflect internalization; internalized reasons reflect beliefs that behavior is motivated and controlled by the self or by the unique rewards and enjoyment associated with task engagement, rather than by external or unknown forces. Behavior motivated by internalized reasons is considered to be the most desirable form of control. As with personal goals, differing notions surrounding the origins of internalized beliefs or reasons have been proposed. Whereas some believe that internalization develops out of an individual's active assimilation of information into an organized sense of self, others believe that it is imposed on the individual by external forces.

Beliefs About Social Belonging and Expectations for Behavior

Students' beliefs about social relatedness, especially with respect to teachers, have been posited as fundamental motivators of classroom behavior. Self-determination theory proposes that teachers who display high levels of emotional involvement and caring toward their students provide support for the development of these beliefs. Based on a more innate set of processes, attachment theory proposes that the quality of early relationships with caregivers provides children with the psychological foundation for subsequent beliefs about relationships with others. Several issues are central to understanding the role of beliefs about belongingness in motivating student outcomes. As noted, the developmental underpinnings of these beliefs vary, with implications for whether they are easily subject to change. Questions also arise as to whether it is a specific quality of

social interactions that leads to beliefs about belongingness or if it is the degree to which an ethic of care is demonstrated. Finally, the degree to which these beliefs about the social context are related to belief systems concerning ability, causality, and control is not well understood.

Beliefs about expected and acceptable behavior in a social group also are viewed as reasons for goal-directed behavior. In the classroom, perceived social norms (and an accompanying sense of obligation to conform to them) serve to maintain the smooth functioning of the group. Theoretical perspectives in this area focus on the development of moral reasoning and the acquisition and internalization of social norms. The development of moral reasoning is viewed as a constructivist process, with the sophistication of reasoning changing in stagelike fashion, often as a function of context and experience. Other perspectives propose that social norms are externally imposed and subsequently adopted by individuals as part of their social identity. Of issue, however, is whether norms for behavior are context specific or universal. In addition, important differences between moral and social norms and between normative and conventional expectations are often blurred or remain undefined. Finally, many contend that students often understand what is expected of them but that understanding does not lead to actual behavior.

Conclusion

In general, motivation is defined as a set of inter-related beliefs that direct behavior. Beyond this generic definition, however, assumptions about these beliefs and how they determine behavior differ in terms of their stability and malleability, levels of abstraction and specificity, locus of determination, and dimensions as defined by qualitative or quantitative influence. With respect to classroom practice and intervention, these assumptions have differing implications for the likelihood of change, units of change (performance at the level of task vs. individual vs. classroom), locus of change (students, teachers, or both), and strategies for change (amount vs. type of change). Therefore, future work designed to facilitate student motivation will require theoretical frameworks that provide clear hypotheses for testing and that take into account the broad range of constructs that have been identified as contributing to goal-directed behavior.

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See also Achievement Motivation; Self-Regulated Learning

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MULTICULTURAL CITIZENSHIP

Citizenship as free and equal membership in a polity is most commonly associated with its core principled commitment to civic equality. Its central basic characteristic is that each and every member of a polity is being granted an equal set of rights. Nevertheless, advocates of multiculturalism have maintained that standard conceptions of citizenship are either insensitive toward differences stemming from individuals' cultural identity or straightforwardly discriminatory and oppressive. In particular, the education of students of migrant origin or minority students, together with other programs or initiatives, has opened some of the basic questions over the nature, value, and justification of cultural diversity.

Unlike the classical liberal or mainstream multicultural conceptions of citizenship, Will Kymlicka articulated a conception of multicultural citizenship that claims to be both sensitive to cultural diversity and consistent with the basic principles

of a liberal conception of citizenship. This entry describes the basic elements of multicultural citizenship as described by Kymlicka, including the nature and the value of cultural membership, the justification for the recognition and accommodation of cultural diversity, the status and the type of group rights, and the conditions group rights need to fulfill to be consistent with a liberal conception of citizenship. The concluding section identifies the most important challenges this account of citizenship has brought for standard conceptions of civic equality.

The Liberal Multicultural Hypothesis

Multicultural citizenship is a crucial component of Kymlicka's "liberal approach to minority rights," articulated most fully in his book *Multicultural Citizenship* (1995). It is based on a number of inter-related claims that aim to bridge the gap between the standard liberal conception of civic equality and the mainstream multiculturalist claims for recognition and accommodation of cultural differences (e.g., Modood, 2007; Parekh, 2000), including the following:

That national minorities, immigrants, and indigenous peoples have a legitimate interest in a secure and stable cultural context

That claims for the accommodation of cultural diversity are based on justice

That group rights are the most viable means to assist nondominant minority groups in their claims for the recognition and accommodation of their cultural differences

That group rights and other multicultural policies are basically consistent with common principles and shared public values

Kymlicka (2011) argues that "states can adopt multiculturalism policies to fairly recognize the legitimate interests of minorities in their identity and culture without eroding core liberal-democratic values" (p. 6).

Along with other accounts of multiculturalism including "the politics of recognition" (Taylor, 1992) and "the politics of difference" (Young, 1990), Kymlicka maintains that neither the expansion of status nor the expansion of entitlement associated with the classical liberal conception of citizenship, as exemplified best by T. H. Marshall in his essay "Citizenship and Social Class" (1950/1992), is

sufficiently inclusive in confronting claims for the recognition and accommodation of cultural differences. As Kymlicka emphasizes, the standard liberal conception of citizenship and its uniform treatment approach toward cultural diversity is insensitive to the claims of minority groups for recognition and accommodation of their cultural differences in that it

fails to recognize the legitimate interests of national minorities, immigrants, and indigenous peoples in a stable cultural context;

lacks the means to compensate adequately for individuals' unequal circumstances; and, relatedly,

insufficiently protects the interests of culturally disadvantaged minority groups.

His justification of multicultural citizenship and its conception of group rights is therefore based on the premise that classical liberal mechanisms to protect an individual's basic interests, including freedom of expression and freedom of association, are not sufficient to provide equal protection for the interests of all members of a polity.

The Status of Cultural Membership

Kymlicka's conception of multicultural citizenship is based on the premise that cultural membership is a primary good (in the Rawlsian sense of the term) (Tomasi, 1995). In this sense, the accommodation and recognition of cultural diversity that represents the justification of multicultural citizenship are premised not on the intrinsic value of a particular culture but on the value cultural diversity has for individuals' cultivation of autonomy (a choice-related instrumental value) and the development of self-respect (a self-respect-related instrumental value). Multiculturalist policies are conceptualized as an indirect protection of individuals' capacity for choice and equal treatment and are therefore consistent with a liberal conception of civic equality. At the same time, the demand for group rights has been made, supported partly in terms of an argument asserting that "the relationship between cultural membership and self-respect gives the parties to the original position a strong incentive to give cultural membership status as a primary good" (Kymlicka, 1989, p. 166). In fact, self-respect, as John Rawls (1971/1999) emphasizes in *A Theory of Justice*, "includes a person's sense of his own value, his secure conviction that his conception

of the good, his plan of life, is worth carrying out” (p. 386). This leads to the assertion that the members of nondominant minority groups are undeservedly disadvantaged in terms of access to a stable and secure cultural environment that is instrumental for the cultivation of a “context of choice” (the context of choice requirement). The important thing to note is that the main emphasis is primarily on a *stable* cultural context rather than on having at one’s disposal a specific culture one has been traditionally associated with.

The Nature of Cultural Membership

The concept of multicultural citizenship and the associated account of group rights is based on a distinction between two separate groups that exist in contemporary pluralist societies—national minorities and immigrant groups. These two groups differ primarily over the nature of cultural diversity itself. The former have a societal culture, that is,

a culture which provides its members with meaningful ways of life across the full range of human activities, including social, educational, religious, and economic life, encompassing both public and private spheres. These cultures tend to be territorially concentrated, and based on a shared language. (Kymlicka, 1995, p. 76)

In contrast, immigrants do not share a societal culture and have deliberately made a choice to move elsewhere, so there should be no justice-based claim for accommodation of their cultural differences.

At the normative level, this distinction is important for distinguishing claims that should be recognized as group rights and those whose claims should be sufficiently protected by standard liberal mechanisms including freedom of expression and freedom of association. As Samuel Scheffler (2005) emphasizes, the main dispute associated with these issues, including the nature of cultural membership, is therefore primarily to identify “which factors should be counted as part of peoples’s circumstances and which can be subsumed under categories of choice” (p. 6). The basic question therefore revolves around the distinction between two normative sources of diversity—chance-based diversity and choice-based diversity. The former constitutes the unchosen natural and social conditions associated with one’s identity. The latter form of diversity, on the other hand, is a matter of individual choice. As Kymlicka (1989) firmly points out, “the distinction between choices

and circumstances is in fact absolutely central to the liberal project” (p. 186).

A number of scholars have strongly objected to this claim; for example, Chandran Kukathas (1992/2003) has argued that the design of multicultural policies that distinguish between minorities and immigrants is discriminatory in that it unjustly distinguishes between groups who might be equally disadvantaged in their relationship to the mainstream society. Moreover, in his book *Culture and Equality* (2001), Brian Barry advanced a critique of the liberal multicultural hypothesis by arguing that cultural differences cannot be equated with disadvantages stemming from bad brute luck, such as a handicap (the nonequivalence objection), and that a differentiated conception of civic equality is inconsistent with an egalitarian conception of citizenship as free and equal membership in a polity (the civic equality objection).

Types of Group Rights

Kymlicka (1995) distinguishes between three main forms of group-differentiated rights associated with claims for the accommodation of cultural differences (pp. 26–33):

1. Self-government rights
2. Polyethnic rights
3. Special representation rights

Self-government rights, as Kymlicka emphasizes, represent a permanent mechanism for the recognition of claims advanced by national minorities and indigenous groups “so as to ensure the full and free development of their cultures and the best interests of their people” (p. 27). In contrast, polyethnic rights are available also to immigrants and religious minorities to “express their cultural particularity and pride without it hampering their success in the economic and political institutions of the dominant society” (p. 31). They consist primarily of various policies including public support of practices and activities associated with their cultural identity or exemptions from otherwise binding laws and regulations. Special representation rights are intended to ensure a fair representation of disadvantaged, oppressed, or marginalized groups in the legislature. Given the fact that nondominant minority groups have been either absent or underrepresented at best, the reduction or removal of barriers and obstacles to their successful inclusion eliminates the need for

special representation rights. Because of this, such policies are primarily seen as a temporary mechanism to facilitate the integration of disadvantaged or underrepresented groups.

Group rights therefore perform a number of separate functions. First, they are primarily oriented to ensure the protection of nondominant minority groups from the pressures and influences of the dominant society and from outside interference in general (the protection of cultural coherence requirement). At the same time, group rights aim to provide a fairer and more efficient integration of these groups into the mainstream society and its basic institutional framework (the requirement of integration). Because group rights aim to equalize the opportunities between members of the majority population and those who are eligible for accommodation, they are primarily compensatory in nature.

Conditions for Accommodation

Contrary to the standard liberal conception of citizenship, which distributes an equal set of rights to all members of a political community, the model of multicultural citizenship distributes group rights on the basis of membership in groups that meet the criteria for accommodation. As Kymlicka (1995) emphasizes, “A liberal view requires *freedom* within the minority group, and *equality* between the minority and majority groups” (p. 152). This requirement basically refuses to allow the basic rights and fundamental freedoms of individual members of minority cultures to be overridden by the interests of minority groups (the requirement of equal freedom). “A liberal theory of minority rights,” writes Kymlicka (1995), is characterized by a commitment to “how minority rights coexist with human rights, and how minority rights are limited by principles of individual liberty, democracy, and social justice” (p. 6).

Conclusion

The “liberal approach to minority rights” and its foundational conception of multicultural citizenship as articulated by Will Kymlicka have been equally challenging for advocates of classical liberalism and for advocates of mainstream multiculturalism.

His conception of multicultural citizenship and a differentiated conception of civic equality have challenged the standard liberal conception of citizenship

and its “uniform treatment approach” in its three core assumptions associated with cultural diversity:

1. That (national) cultures are largely homogeneous
2. That culture is irrelevant in considerations over justice
3. That civic equality and equal treatment are coextensive

At the same time, his explicit acknowledgment of the limits of accommodation of cultural differences, as well as the requirement that group rights and multiculturalist policies in general be consistent with a broadly liberal outlook, has met with reservations among different advocates of multiculturalism. Nevertheless, his redefinition of civic equality has expanded our understanding of citizenship as free and equal membership in a polity.

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See also Citizenship and Civic Education; Diversity; Ethnicity and Race; Liberalism; Multiculturalism; Toleration; Young, Iris Marion

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MULTICULTURALISM

The term *multiculturalism* as an approach to both society and education is of relatively recent vintage, although it inherits earlier traditions of thought about cultural pluralism and minority rights. Multiculturalism in society deals with normative and policy responses of recognition, support, and accommodation to ethnic, racial, religious, linguistic, and national groups, generally as minority groups within the borders of a given nation-state. Political theorists examine whether these accommodations are permitted by a proper understanding of liberal principles and, if and when liberalism and multiculturalism conflict, which approach should prevail. Especially in the United States, and more especially in the American world of education, multiculturalism is often taken to embrace a range of groups other than those mentioned. They have in common the experience of being the target of discrimination, marginalization, or stigmatization—such as groups defined by gender, sexual orientation, gender expression, or disability. Nevertheless, it is misleading to think of the challenges of equality and recognition these groups face as having something to do with their cultures, if indeed they can be spoken of as having cultures.

One challenge in giving an account of multiculturalism is that, especially in American education, it has become a bandwagon term, as notably expressed by the title of the influential book

We Are All Multiculturalists Now (Glazer, 1997). So educators might engage in practices they defend as multiculturalist but that do not correspond to a coherent theoretical position on multiculturalism. Precisely the reverse process seems to have taken place in some European countries where multiculturalism has become stigmatized, associated with Islamic terrorism in Europe and the United States since 2001 and with the alleged failure of Islamic immigrant communities in European countries to become adequately integrated into and loyal to their host nations. In these countries, policies that might fit a theoretically coherent view of multiculturalism, and that, indeed, had been formerly defended in those terms, are now conceptualized in other ways, for example, via the language of “integration.”

It is not entirely unproblematic to use “culture” to frame the groups included within multiculturalism. Many kinds of groups—companies, professions, age-groups—can have “cultures,” but the kind of culture generally regarded as most relevant to multiculturalism is ethnoculture—the culture of ethnic groups. Religion and language are included because both are so often a part of a given group’s ethnoculture; race is more distinct from culture, but minority ethnocultural groups are often also racially distinct from the dominant White group in European and U.S. contexts. Moreover, aspects of a group’s culture may have developed in response to racist treatment, notably exemplified by African Americans. National culture is included in part because the origins of many ethnic groups inside one country lie in another nation and in part because a given nation’s distinctive culture has to be taken into account in thinking about cultural diversity within that nation. But also, when “nation” is used to refer to indigenous cultural groups with, or with aspirations to, territory within a given nation-state (such as First Nations in Canada and the United States, aborigines in Australia), such national groups are a paradigmatic group relevant to multiculturalism (Kymlicka, 2007; Laden & Owen, 2007).

Educational multiculturalism transcends issues of accommodation. It bears on all aspects of education—the purely academic as well as moral, civic, and personal growth—and involves goods both to the individual student and to the society. But multicultural education is not a comprehensive theory of the aims of education. Some aims, such as autonomy or critical thinking, are not directly

sought by multicultural education, although some aspects of it may contribute to them.

Difference-Affirming Values

Multicultural education embraces several distinct aims and values. Most of them can be framed within two major value families—difference and equality. The former is more popularly associated with educational multiculturalism, as expressed in the title of a canonical text in multicultural education, *Affirming Diversity* (Nieto & Bode, 2012). But in fact, much educational multiculturalism is properly seen as grounded in equality concerns.

A minimal core multicultural educational principle is teaching about the range of ethnocultural groups within a given nation's border, rather than focusing solely on the dominant group. This minimal dimension of multiculturalism can be defended on purely academic grounds, setting the historical record straight by not omitting important groups from academic study. This principle leaves important questions open. Should the coverage be determined solely by considerations of national importance, or should schools give more attention to groups that may be more numerous or historically significant in the region in which the school is located or indeed in the school population itself?

Teaching students about groups other than their own serves difference-related moral, civic, and personal values, besides the purely academic one of expanding students' mental horizons and giving them a better understanding of their nation's (and the world's) history. Doing so is presumed to increase their respect for these different groups and to reduce prejudices that they might have grounded in ignorance of them. "Respect for difference" is a more robust moral standard than mere tolerance, often cited as a multicultural education goal (Levinson, 2012). Tolerating means a "live and let live" attitude toward something of which one disapproves. But students' greater understanding of other groups should reduce the very objections they might have that require tolerance and instead lead to a positive respect for the groups studied.

This respect for difference has a moral significance in that respect for others is a core moral attitude, a personal significance in that it enhances the possibilities for a wider range of fulfilling interpersonal relationships through bringing more groups within one's purview of potential friends, and a civic

significance in that greater respect for socially significant groups enhances the possibilities for engaging with them productively in a civic context. The latter reflects a benefit to society as well in preparing students to engage constructively with fellow citizens of diverse groups.

Nevertheless, learning more about a given group does not *guarantee* greater respect. A student might become appalled rather than sympathetic or respectful by what she learns about why a group engages in the practices it does. Thus, two distinct goals of multicultural education—greater knowledge of other groups and greater respect for other groups—can come into conflict. Still, it seems a fair generalization that, on the whole, greater knowledge is more likely than less knowledge to lead to more rather than less respect.

It is also appropriate for educators to see teaching about groups as helping members of the group being studied (if any are present in the educational setting) to come to have a deeper understanding and affirmation of their own group, its heritage, practices, and sociohistorical experiences. Such affirmation is particularly important for groups that are stigmatized or marginalized—such as African Americans, Native Americans, Muslims, and Latinos, among others, in the United States. Some object that schools should not be in the business of reinforcing particularistic identities of their students. But validating an existing identity in the face of its nonrecognition or devaluation is not the same as deliberately reinforcing it.

A related difference-affirming value is the positive valuing of ethnocultural plurality itself. Virtually every nation in the West, and actually everywhere in the world, is currently ethnoculturally diverse. A goal of multicultural education is to encourage young people to embrace, welcome, and value the diversity of their societies. This value is thinner than "respect for different ethnocultural groups" in not requiring as much engaged understanding of particular groups, but it is broader in embracing all groups (at least within the nation) as a whole, not only each one individually.

The Specter of Relativism

Both of these respect-related values seem to raise a concern often charged against multiculturalism, that it permits no critical stance toward the practices of ethnocultural groups and gives the message to students that any practice that can claim a cultural

source is thereby rendered acceptable. This concern is not without merit, but it has minimal force against multicultural education rightly understood in light of the following points. Some multiculturalist practices skirt the relativism problem by focusing on “heroes and holidays” (or “songs, saris, and samosas”), thereby providing a much too superficial view of the groups studied. More significant is that much learning about groups focuses more on their histories and current social experiences—thus not raising issues of relativism—than on their distinctive cultures. This basic point is somewhat masked by the “culturalist” language of multiculturalism, which can be taken to imply that everything significant about an ethnic group concerns its culture.

Second, learning about and appreciating the importance of cultures *to their members*—how culture provides meaning—does not require either affirming or criticizing those cultures in their own right. Third, to the extent that students are learning about the cultures and values of ethnic groups, these should not be presented as above criticism. If an ethnocultural group regards girls as being less worthy of being educated than boys, students should not be taught that this is fine because it is the culture of the group in question. Nevertheless, being critical of a particular practice or value of a culture does not mean rejecting the ethnocultural group as a whole. As Charles Taylor (1994) pointed out in his seminal article on multiculturalism, ethnocultures can have value even if particular practices within them warrant criticism.

Fourth, while students’ critical faculties should be nurtured and not shut down in the name of some misunderstanding of cultural acceptance, it is also important for teachers to recognize blind spots and cultural prejudices that members of dominant groups especially (but not only) might bring to their educational encounter with minority groups. Students’ critical faculties have to be nurtured in relation to their own beliefs, values, and practices as well as those of others.

Finally, it is indeed good for students to think through value differences in general and as they are manifested in cultural differences. A blanket universalism about all values is not morally or educationally sound.

Equality-Based Values

Other multicultural goals are best seen as aiming at or exemplifying equality of various forms, rather

than affirming differences. “Culturally sensitive (or congruent) teaching” is one. The educational theorist Lisa Delpit (1995) is particularly insightful in insisting that teachers be aware of their students’ cultural practices that might bear on instruction. An example is African American students’ use of African American Vernacular English (AAVE). Teachers should not portray AAVE as “incorrect English” but should recognize it as a language form, with its linguistic integrity. Otherwise, they will inappropriately devalue African American students through devaluing a cultural modality that may be central to their identity. (Not every African American student speaks AAVE, however.) To do so would violate a standard of equal treatment of students.

Nevertheless, as Delpit emphasizes, teachers should also make it clear to students that they must learn the rules of Standard English, and that they will not be able to access the full range of economic and civic opportunities unless they are able to use it and know when not to do so. So teaching Standard English serves another equality value, that of equality of opportunity, and this can be accomplished without demeaning AAVE. Delpit (1995) gives an example of a young African American girl who is telling a story in AAVE, is asked to restate it in Standard English, does so, but then makes it clear that the particular associations of the AAVE form seem to her to better express what she wants to say in the story (p. 169). If the teacher had appreciated this student’s complex linguistic performance, she would have complemented the equality-based values with a difference-based, respect-for-ethnoculture one.

Equality values also underpin teaching students not to be prejudiced or to discriminate against groups other than their own, and social psychologists and educationalists have devised many ways of reducing prejudice through education (Blum, 2009; Stephan, 1999). In addition, students should learn the historical, political, economic, and social obstacles to equality among groups. Finally, they should learn about historical and current attempts and struggles, especially on the part of the disadvantaged groups themselves, to bring about equality between groups.

The language of “culture” can get in the way of recognizing the equality dimension. Treating others as equals or unequals as groups (of persons) is not the same as treating their *cultures* in a respectful or disrespectful way. Many Christians who saved Jews from being killed by Nazis had no respect for Judaism or Jewish culture yet felt that common

humanity meant that Jews should not be killed (Blum, 1994). Human equality differs from cultural respect or equality (if the latter makes sense).

The equality perspective requires us to ensure that the student's identity not be used to discriminate against her, while otherwise being indifferent to whether she embraces that identity or not. The difference perspective enjoins us to accord positive appreciation to the distinctive identity, assumed to be important to the student. Yet the equality and the difference-related dimensions of identity affirming must be bounded by accurate portrayals of the group (not a distinctly multicultural aim but one generally cohering with it).

Race, Culture, and Equality

The perspective of race can help us sort out the difference between equality-based and difference-based threads within multiculturalism. (Race as used here refers to the process of racialization, not the discredited, science-based notion of race [Blum, 2010].) Often, race is not sufficiently distinguished from culture (Ford, 2005), nor is antiracism as an educational project distinguished from the more encompassing one of multicultural education. (It is plausible to use "multicultural education" more narrowly so that it is more clearly seen as a distinct, if partly overlapping, educational project from "antiracist education," but here the more common, if potentially misleading, broader meaning of "multicultural education" will be used.) Race concerns devaluing of and discrimination against persons, not their cultures, and so more clearly zeroes in on issues of inequality.

Many groups are both cultural and racial. African Americans and Latinos both have distinctive cultures (although "Latino" is more of a pan-ethnic designation, embracing many distinct subcultures within it), yet are seen racially by others and treated as such. In addition, African Americans have a distinct sense of themselves as a racial or racialized group, and Latinos have a partial, though growing, sense (Cohn, 2012). Muslims are primarily seen religiously and culturally but also to some extent racially (Modood, 2007, pp. 44–45). As Ralph Ellison (1995) noted, a group may respect and embrace another group's culture yet disrespect its members as persons, as he saw young White Americans doing to African Americans.

Multiculturalism and Social Cohesion

A further aim of multicultural education is social cohesion, promoted by members of different groups

learning about one another, sharing schools and classrooms in which such learning takes place, and becoming comfortable with one another. Both the difference-affirming and the equality dimensions of multicultural education encourage affirmative social and civic bonds across ethnocultural differences. Although multiculturalism in society and education has been criticized for encouraging the balkanization of ethnocultural groups (Schlesinger, 1998), only the one inward-looking strand—affirming one's own group—is open to this criticism; and even there, temporary separation can be a step on the way to integration into a larger social whole (a school, the entire society), as the residential ethnic enclaving of new immigrant groups in the United States tended to be.

This discussion has been assuming that the minority ethnocultural groups with which multiculturalism is concerned desire integration as full equals into the larger society. But some internal minority groups may wish only to be left alone or, for example, to be permitted to run schools solely for members of their group. Since multicultural education is not a comprehensive doctrine of educational aims, a case can be made for this option for some groups, such as the Amish in the United States. But this is less than ideal for a culturally pluralistic society.

In any case, it is wrong to think that Muslim immigrant groups in the West constitute such a group, as many White Europeans seem to do. By and large, Muslims seek integration into the Western societies in which they have chosen to live (Klausen, 2005). However, as Tariq Modood (2007) has argued, a normatively satisfactory completion of this process might require European societies to modify a totalistic form of public secularism (most prominently articulated by the French as part of their national culture), allowing some role for religion in the public sphere. It is worth noting that in recent years, the terminology of "interculturalism" has arisen to emphasize the strands of what this entry has called "multiculturalism" that involve interaction between groups and to distance them from the more "separatist" strands (see Waddington, Maxwell, McDonough, Cormier, & Schwimmer, 2012).

Lawrence Blum

See also Affirmative Action; Assimilation; Citizenship and Civic Education; Communitarianism; Epistemology, Multicultural; Multicultural Citizenship

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MULTIPLE INTELLIGENCES: HOWARD GARDNER

As part of a large collaborative project begun at Harvard University in the late 1970s, Howard Gardner (1943–) began his examinations of human potential. In 1983, he published his seminal book *Frames of Mind*, which was republished in new editions in 1993 and 2003. His theory of multiple intelligences asserts that human intelligence is best conceptualized as a constellation of relatively autonomous cognitive competencies. These discrete intelligences allow individuals “to solve problems, or to create products, that are valued within one or more cultural settings” (Gardner, 1983/1993, p. x). The original seven intelligences are (1) linguistic, (2) logical-mathematical, (3) spatial, (4) bodily-kinesthetic, (5) musical, (6) interpersonal, and (7) intrapersonal. Gardner refined his theory after its original publication, proposing naturalist and existential intelligences as potential additions (Gardner,

1999, 2006). This entry discusses Gardner's criteria for an intelligence, the elements of each intelligence, and criticisms of multiple intelligence theory.

Multiple intelligence theory challenges traditional psychometric approaches to the study of intelligence in that it does not rely on cognitive tests and close examination of the correlations among test scores. Instead, Gardner's theoretical rationale is rooted in neurological, evolutionary, and cross-cultural evidence. He derived this conceptualization of intelligence in part from his experiences working with members of extreme populations, in which certain cognitive abilities are preserved (often to a remarkable degree) even in the absence of other, very basic abilities. For example, some autistic savants display extraordinary musical or mathematical abilities despite severely impaired language development and social awareness. This suggested to Gardner that music, math, language, and social awareness might be powered by different (metaphorical) reservoirs of mental energy. Likewise, individuals with localized brain damage often demonstrate severe deficits that are circumscribed to a single cognitive domain or ability (Gardner, 1983/1993/2003). For example, some individuals who have experienced stroke or trauma in particular areas of the brain may lose their ability to recognize faces, but nothing else. This condition, called *prosopagnosia*, also suggests that human intellectual ability may be more differentiated than mainstream conceptualizations of intelligence acknowledge.

Gardner articulated several inclusion criteria for candidate intelligences, although he was also clear that meeting all of the criteria perfectly is probably not realistic. The criteria include (a) potential isolation by brain damage (as in *prosopagnosia* and many other syndromes); (b) existence of individuals with exceptional but uneven profiles of abilities (e.g., savants and prodigies); (c) identifiable core information-processing mechanisms that correspond to a particular intelligence (based on neurological findings); (d) a distinct developmental trajectory in humans, along with definable "end-states," that makes it possible to identify both novices and experts within a given domain; (e) an evolutionary history that suggests that a particular intelligence has evolved within humans over time or is present in lower life forms (e.g., birdsong and musical intelligence); (f) experimental support; (g) psychometric support; and (h) encoding in a

symbol system (e.g., music, language, and mathematics can be communicated symbolically).

The Intelligences

Linguistic intelligence enables individuals to read, write, and speak well. It holds up well as a candidate intelligence in that it can be isolated by brain damage (e.g., to Broca's or Wernicke's areas); linguistic prodigies and savants exist in the population; neuroscientists have identified specific linguistic information-processing systems in the brain; it has a distinct developmental trajectory and an evolutionary history in our species. And of course, language is encoded in many symbol systems.

Logical-mathematical intelligence encompasses logical thinking (as might be used in chess or deductive reasoning) as well as mathematical and scientific problem solving. Like language, it too can fall victim to isolated brain damage, creating a set of conditions that fall under the heading "dyscalculia" (analogous to "dyslexia" for language). Savants with autism often display remarkable mathematical prowess, as do nondisabled children who have been identified as math prodigies. Math ability is evidenced in developmental and evolutionary histories, and it also is codified in many symbol systems.

Spatial intelligence makes its appearance when an individual navigates an unfamiliar set of streets or when an architect visualizes his or her plans for a building. Many mainstream intelligence tests assess spatial ability by asking examinees to mentally rotate an object by a specified number of degrees and then select its image from several options on a page. Thus, there is ample experimental and psychometric support for its existence. There is some evidence for a developmental trajectory (e.g., Piaget & Inhelder, 1956) and copious neurological evidence for visual-spatial processing systems in human and nonhuman brains. Damage to the right parietal lobe of the brain can cause serious problems with spatial reasoning while leaving other abilities (e.g., language) intact.

Bodily-kinesthetic intelligence is necessary for problem solving that requires the individual to use his or her physical body, as would be necessary for performing a complex surgical procedure, executing a series of dance steps, or catching a fly ball. Some syndromes and brain traumas can disable a person's ability to use the physical body, leaving intelligence otherwise intact. Tool use among nonhuman animals and precursors to *Homo sapiens* demonstrate

a clear evolutionary history. A developmental trajectory is clear as human children develop fine and gross motor skills. Dance can be thought of as a symbol system that communicates meaning through movement.

Musical intelligence generates the set of skills that allow musicians to play a tune by ear or to execute a phrase with sensitivity and grace. Savants and prodigies sometimes demonstrate remarkable musical ability, in a way that is quite out of proportion with their other abilities. The development of musical ability in humans follows a predictable developmental sequence, and there is abundant evidence of an evolutionary history (e.g., birdsong). Patients who have Alzheimer's disease can often sing long after they have lost the ability to speak, and some nonverbal stroke patients can be taught to sing. Like the other intelligences, music has a highly structured symbol system that can be used for communicating and receiving meaning.

Interpersonal intelligence drives social skills and things like empathy and intuition about what motivates other people—a type of understanding that is necessary for salespersons, teachers, and clergy, for example. The evolutionary history of this intelligence can be seen in all relational animals. Its developmental trajectory in humans is evidenced as young children move from preoperational egocentrism to an awareness that other people have minds separate from their own (e.g., Piaget & Inhelder, 1956). It is arguable that interpersonal intelligence is what is lacking in certain people with autism spectrum disorders; confused by complex social rules and expectations, they are otherwise highly capable individuals. Intrapersonal intelligence involves a similar set of abilities, but these are turned toward the self; individuals who have high intrapersonal intelligence have an accurate self-understanding and can use this to their advantage in problem solving.

Since his initial proposal of the seven intelligences, Gardner (1999, 2006) has added two more candidates, *naturalist* and *existential*, while largely dismissing the idea of the promising candidate spiritual intelligence. Individuals with high naturalist intelligence have the ability to identify and classify patterns in nature and often show unusual interest in the natural world early in life. People who possess high existential intelligence are better able than most to make sense out of the “ultimate” concerns of human beings, such as the meaning of life and death, or the puzzle of the existence of single individuals in a vast and empty universe. Although Gardner

proffers this final intelligence very cautiously, the limited evidence that has been gleaned suggests that it meets the same empirical criteria as the original seven.

The relative cultural value assigned to various intelligences is also a matter of interest and concern to Gardner and others who support multiple intelligence theory. Gardner (1993/2003) asserted that logical-mathematical and linguistic intelligences are overemphasized in traditional models of human intelligence but that this may be a cultural artifact; in different cultural circumstances, other intelligences would take on a higher significance. For example, spatial intelligence might have precedence in a hunter-gatherer culture, where navigation across terrain is paramount to survival. In the 21st century, spatially impaired individuals can rely on GPS (global positioning system) devices to find their way home. As such, difficulty with spatial tasks may have relatively little impact on their ability to live a rich, full life. However, people with language or math challenges often face considerable challenges in the academic and professional realms.

Criticisms of Multiple Intelligence Theory

Gardner's theory of multiple intelligences has been widely embraced by educators, in particular classroom teachers. This is perhaps because it provides a framework for articulating and operationalizing what many, perhaps especially teachers, want to believe about human beings: That is, we are all unique, and we each have the potential to be excellent in different areas. This popular interpretation of multiple intelligence theory almost certainly is not shared by Gardner. But this is how it is often viewed.

Scholars working in psychology have been far less willing to embrace this novel approach to intelligence theory. The criticism is probably not surprising given that this theory differs so substantially from previous efforts to understand the human intellect. Some criticism stems from the relative lack of psychometric support. Some of the proposed intelligences do not easily lend themselves to psychometric assessment, and there are methodological issues with many traditional assessments that tend to bias results against multiple intelligence theory. For example, compare the conflicting results of recent attempts to assess the intelligences, such as Almeida et al. (2010); Castejon, Perez, and Gilar (2010); and Plucker, Callahan, and Tomchin (1996). Some

critics have suggested that the intelligences are better conceptualized as talents or abilities. Jensen (1998, p. 129), in a wide-ranging critique, finds Gardner's criteria to be too vague or "elastic," arguing that many of the intelligences as currently described are not sufficiently distinguishable from the general intelligence (*g*) found in many experimental and psychometric settings.

Gardner himself has publicly addressed many of these criticisms (see, e.g., Gardner, 1995, 2006), but it is probably safe to conclude that mainstream psychologists who value traditional psychometrics find multiple intelligence theory to be severely wanting; however, educators and psychologists who favor culturally derived, contextualized developmental theories find a lot to like in Gardner's approach to intelligence.

Jonathan A. Plucker and Amber Esping

See also Abilities, Measurement of; Intelligence: History and Controversies

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MULTIVERSITY

The concept of the multiversity was introduced into the literature on higher education by Clark Kerr in his 1963 book *The Uses of the University*. He analyzed the history and development of universities in the United States and identified a new type of university—the multiversity—that had emerged in the postwar period, a time when new knowledge became the most important factor in economic and social growth. In contrast to earlier universities that focused on a single purpose, like the residential undergraduate college or the German research university, the multiversity combined many, often conflicting, purposes. The multiversity had undergraduate, graduate, and professional education, and its faculty members conducted both pure and applied research. The multiversity was autonomous but served national purposes. The word *multiversity* refers to the type of university identified by Kerr and also has come to be associated with Kerr's analysis of the role of the university in postwar America.

Kerr identified the multiversity in his Godkin Lectures, delivered at Harvard University in 1963 and then published as the volume *The Uses of the University*. He examined universities in America, which he saw as connected to the past; however, one group was evolving in a new direction. What had emerged at the top of the ecosystem of higher education was the truly modern university—the multiversity. At roughly 10-year intervals until 2001, Kerr extended his analysis, republishing the book with the original lectures and adding chapters. Few were better qualified to offer such analysis of the university in America: Kerr had been chancellor of the University of California, Berkeley (1952–1958), and president of the University of California (1958–1967), and he went on to chair the Carnegie Commission on Higher Education.

Kerr wrote that the first universities started out as a single community united around a single animating idea. In contrast, the multiversity was a conglomerate of several, often conflicting, ideas.

In the past, there had been two great "ideas," or ideals, of a university in the United States. The first was that of Cardinal John Henry Newman, set out in a series of lectures given in Dublin in 1852 and published as *The Idea of a University* in 1873. For Newman, the university was a place of undergraduate liberal education; not a place of research. It was

a place of teaching and learning, of knowledge for its own sake—his idealized vision of Oxford in the mid-19th century. Such universities have the residential college as the primary unit.

The second ideal was that of Abraham Flexner, set out in his book *Universities: American, English, German*, published in 1930 but presaged in his influential report on medical education in the United States, which recommended increasing education in science for physicians and having medical faculty engage in research. For Flexner, the heart of the university was the graduate school of arts and sciences, the professional faculties of medicine and law, and, more broadly, the research enterprise, particularly pure as opposed to applied research—a vision represented by the University of Berlin in the late 19th century. Such universities have the academic departments as the primary unit.

Kerr recognized that certain large American universities were a combination of these two ideas of a university and so at their heart had a crucial tension between undergraduate education and research. American universities had also combined another ideal represented by the land grant colleges, established following the federal Morrill Act of 1862. The federal government granted lands to the states to be used to establish and fund colleges that would have faculties of engineering, agriculture, home economics, and business administration and would open their doors to children of the working class. Kerr recognized that the German research ideal and the land grant ideal were not as incompatible as it might first appear—they both served an industrializing nation, and they both did so through research and the training of skilled workers.

For Kerr, the multiversity emerged in the 1960s, combining these ideas of a university and responding to the transformation of the postwar economy, an economy that needed skilled workers and new knowledge as never before. Governments greatly expanded their funding of universities, supporting the move to mass university education and massively increasing support for research at universities, especially research in basic science, engineering, and biomedicine that addressed national priorities related to defense, atomic energy, and health. The federal research support flowed to a relatively small group of leading universities. Kerr saw the multiversity as a pragmatic response to the forces of history, not a reasoned choice among elegant alternatives. Furthermore, he viewed the multiversity as a truly American university, an institution unique in world

history and one that would become a model across the world.

A decade after Kerr's 1963 lectures, the Carnegie Commission on Higher Education developed the Carnegie Classification of Institutions of Higher Education, characterizing the institutions by degree/credential awarded. Among the doctorate-granting universities, it further characterized institutions by the relative emphasis on research (measured largely by the receipt of federal research funds). The top group of doctorate-granting universities, the most research-intensive universities, was made up of the multiversities. They averaged about 35,000 students (33% at the graduate level), were highly selective in their admissions, granted many doctorates across a range of fields, and placed great emphasis on high-quality research.

Some writers have used the term *multiversity* to refer to large, multicampus universities; but Kerr's concept emphasizes that the multiversity is a pluralistic institution.

Many writers at the time and since have been critical of Kerr and of the multiversity—some because of their loyalty to another idea of a university, more because as Kerr explained the multiversity, he seemed to celebrate and endorse it, even its close connection to government and business as part of the knowledge industry. Kerr had been chancellor of the University of California, Berkeley, during the anti-Vietnam war, the civil rights protests, and the Free Speech Movement, and during his term, hundreds of students were arrested on campus. The messenger made the message about the multiversity highly controversial.

George Fallis, in *Multiversities, Ideas, and Democracy* (2007), accepts Kerr's analysis of the modern research university as a pluralistic institution but argues that it is not simply an American creation. The same strands of history were creating multiversities across the Anglo-American world at about the same time. Fallis also argues that there was an equally important transformation in the political sphere during the postwar period—the creation of the welfare state—and that the multiversity should be understood also as a response to this. There should be another idea embedded in the concept of the multiversity, and that is the university as an institution of democracy: an autonomous center of authority, a countervailing power to government and business, and a source of social criticism.

Whatever the critique, there can be little doubt that the American multiversity has become a model

for other countries. And the conflicted pluralism, so presciently identified by Kerr, has become the character of all modern universities, not just the big research universities.

George Fallis

See also Economic Development and Education; Higher Education: Contemporary Controversies; Newman, John Henry (Cardinal); Pure and Applied Research and *Pasteur's Quadrant*

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MURDOCH, IRIS

A prolific novelist and philosopher, Iris Murdoch (1919–1999) published 26 novels, three of which won major prizes, three plays, two volumes of poetry, numerous philosophical essays, three philosophical books, and two Platonic dialogues. Her major essays are collected in *Existentialists and Mystics* (1997) and *The Sovereignty of Good* (1970). Her first book-length work in philosophy was *Sartre: Romantic Rationalist* (1953). She wrote a study of Plato's ideas on art and philosophy in *The Fire and the Sun: Why Plato Banished the Artists* (1977). Her two dialogues are published as *Acastos: Two Platonic Dialogues* (1986). Her magnum opus in philosophy is the massive *Metaphysics as a Guide to Morals* (1992). She had been working on a study of Heidegger and was on her 27th novel when she began to suffer from Alzheimer's disease and was unable to complete these works.

Murdoch's contribution to the philosophy of education should be seen in the context of her metaphysical realism. For her, there are truths about the world and about the human condition

that education, properly pursued, can illuminate. These truths concern the nature of the human soul or psyche as naturally and relentlessly selfish; our capacity for what she calls "unselfing," the ability to overcome our selfish nature and see reality truly; and reality as including the nature of the human condition as subject to contingency, chance, and death. For Murdoch, art and intellectual studies are educational because they are especially suited to this task of unselfing by promoting the development of qualities of mind and character she calls virtues. She frequently acknowledged Plato as her inspiration.

Murdoch links education in art and intellectual studies with a pervasive case of unselfing: our untutored appreciation of beauty in nature. Great art links us with this simple sense of beauty, but for Murdoch, most art fails to do so because it is mere self-consoling fantasy: Good triumphs over evil, true love overcomes all obstacles, and the like. Most art presents what she calls false unities, by which she means an illusory sense of completion. Great art breaks this illusion, and Murdoch cites tragedy as especially good at getting things right about the world, especially about the unintelligible fate of an individual person, the suffering of innocents, or the nature of evil. Great art does this because its form presents us with the independent existence of something fine and excellent. The novel also has a key place in education, because it can depict what escapes the grasp of even great art, both the inevitable contingency and awfulness of human life and what she calls its "funniness" and absurdity. Reading and reflecting on novels thus can and should be a moral experience.

The phenomenon of unselfing depends essentially on the qualities of mind and character that both the artist and the consumer of art need: virtues of courage, truthfulness, patience, and humility. Murdoch claims that art is the most educational of all human activities. So to learn to appreciate art is to learn to exercise the virtues.

Murdoch also finds in what she calls *technai*, by which she means intellectual studies, another source for freeing ourselves from our selfishness and for connecting us with reality. She uses the example of learning a foreign language to explain the sense that the same concepts are at work here as in her discussion of great art. Achieving fluency in another language is to come to learn something that was originally quite alien but whose independent existence must be appreciated. Intellectual studies generally—for example, mathematics, history, the

sciences, philosophy—enable us to pierce the veil of the selfish soul by presenting ways in which the world looks behind the appearances that the selfish soul takes for reality.

Murdoch's Platonism is one of the key elements in her understanding of education. She believed that the means to get things right should be taught in schools, and doing so requires that teachers embody the virtues and that students learn to exhibit them in their studies. Virtues, for her, enable us to connect with reality. She also appropriates Plato here to bridge the gap between the good artist or good scientist and the good person. Morality, which for her means the achievement of the fine qualities of attention and truthfulness, which provide a source of energy for right action, is more difficult than art and intellectual studies because human beings are more complicated than paintings, novels, or theories. Her debt to Plato is also evident in her argument that there is a higher good than the good of any of these activities. Even great art and impressive scientific theories must be understood in the context of one's life and one's community. We still have to decide what should be the place of these products and activities in our lives. But that decision, an inescapably moral one, requires the very same virtues that she claims are necessary for the creation and appreciation of great art and for the mastery of intellectual studies.

Murdoch offers an image of human beings that befits both the novelist and the philosopher: Human beings make pictures of themselves and then come to resemble the pictures. The task of education is to develop the virtues so we can evaluate these pictures and distinguish those that merely feed our fantasies from those that connect us with reality.

The central role that the virtues play in Murdoch's philosophy of education links up very naturally with the work of Alasdair MacIntyre and Michael Oakeshott.

William Evans

See also Aesthetic Education; MacIntyre, Alasdair; Moral Education; Oakeshott, Michael; Plato; Virtue Ethics

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MUSLIM EDUCATIONAL TRADITIONS

It is a widely accepted fact that under centuries of Muslim rule, areas from Andalusia to Samarkand and from Cairo to Delhi were home to vibrant and often world-leading traditions of teaching and learning. In the process, there emerged a diversity of positions on knowledge, teaching methods, and student learning. These traditions thrived in places such as mosques, *kuttabs* (places of elementary education), and *madrasas* (institutions of higher learning), as well as in libraries, palaces, and centers of translation.

The impetus for education was a combination of a religious quest to understand the will of God in order to fashion personal and collective life in its light, a search for useful knowledge to run empires, and the attraction of the Hellenistic, Persian, and Indian intellectual heritages. The educational traditions of Muslims provide an impressive example of the movement of ideas across human cultures. The pedagogical writings of Muslims owed much to the Hellenistic tradition. In turn, the ideas and practices of Muslims made deep imprints on medieval European scholastic thought, so much so that no good history of education in Europe can be written without engaging with these exchanges. This entry will expand on these themes.

Historiographical Issues

At the outset, two historiographical issues need to be noted. The first relates to sources that are available to study the history of education in Muslim societies. Although the sources go back to the first decades of Muslim history, it is from the latter part of the 8th century and onward that they exist in

substantial numbers. By this time, Muslim societies had evolved a variety of doctrinal positions that influenced epistemological thought and educational practices. Thus, the different doctrinal positions of Sunni, Shia, and Khariji interpretations—rooted in varied stances toward religio-political authority after the death of Prophet Muhammad in 632 CE—generated diverse approaches to authentic knowledge and how to acquire it. For example, the criterion to establish the authenticity of the sayings of the Prophet is different among the Sunnis and the Shias.

Second, the educational traditions were shaped by the early political and military successes of Arab Muslims, which created a nexus of faith and power. Within decades of Prophet Muhammad's death, Islam became the religion of an empire spreading from the shores of the Atlantic to the borders of China. These lands had long-established intellectual traditions that in time became interwoven with ideals, doctrines, and perspectives drawn from the sacred sources of Muslims. Conversion of people well versed in these traditions of learning as well as translations of books from different languages into Arabic played a key role in this process. Bait al-Hikma (House of Wisdom), a library and translation center established by the Abbasid caliph al-Ma'mun (d. 833), was the most famous site for such translations.

An important consequence of the above was that though there always remained a degree of autonomy and separation from the state, education as a site for controlling knowledge and a moral vision of society was never without political patronage and influence. Thus, for example, the Seljuq dynasty in the 11th century propagated its ideology through what came to be the foremost educational institution—the madrasa (literally, “a place of study”; traditionally a place of higher learning in a variety of fields, particularly those associated with religious sciences). The Fatimids, a Shia dynasty from the 10th to 12th centuries, was also very active in state-supported educational activities.

Educational Thought

In recent years, the idea and practice of education in the Muslim tradition has drawn increasing scholarly attention, bringing to light several works devoted to the question of the transfer of knowledge across generations. In this regard, al-Jahiz's (d. 869) *Book of Teachers*; Ibn Sahnun's (d. 870) *Etiquettes of Teachers*; al-Farabi's (d. 950) *Enumeration of the*

Sciences, Epistles of the Brethren of Purity (10th century); al-Zarnuji's (d. ca. 1223) *Instruction of the Students: The Method of Learning*; Qutb al-Din al-Shirazi's (d. 1311) *Pearls of the Crown*; and various writings of al-Ghazali (d. 1111) and Ibn Sina (d. 1037) have received particular attention.

The importance of learning in the early years of a child's life was well known; al-Ghazali compares learning at this age to engraving on a stone. Elementary education generally began at age seven, though an earlier start was also not unusual. Just and equal treatment of pupils was seen as a paramount pedagogical principle. One source observes that on the Day of Judgment, teachers will be questioned about their impartiality toward students, rich or poor. This attitude may have contributed to making education a route to social mobility and esteem for many.

Though memorization was the predominant pedagogical mode, in part based on the underlying conception of knowledge as fixed, transmittable, and objective, this was supplemented with other modes. Pedagogy in philosophical studies was highly textual and combined self-teaching and studying with a tutor. Medicine required apprenticeship, personal reading, and tutoring. In *fiqh* (“jurisprudence”), there was a combination of oral instruction, textual studies, and debates (*manazara*). Sufis gave central importance to initiation and guidance by a spiritual master (*murshid*), with very limited textual studies. In all cases, the ideal was to put knowledge into practice; a learned man was expected to be a good man.

Some authors sought to balance the emphasis on memorization and textual studies with reasoning capacities. al-Jahiz sought such a synthesis:

The true proposition and the praiseworthy judgment is that, when [a student] learns only by memorization, this harms deductive reasoning; and when he uses only deductive reasoning, this harms learning by memorization—even if memorization has a more honourable rank than [deductive reasoning]. So, when he neglects rational reflection, ideas do not come quickly to him, and when he neglects memorization, [these ideas] do not stick in his mind or remain long in his heart. (Quoted in Günther, 2005, p. 121)

Debates About Knowledge

From a theoretical perspective, perhaps the most important contest was over the question of authentic

knowledge and its access, for after all salvation was believed to depend on such knowledge. al-Ghazali, in his *al-Munqidh min ad-Dalal* (Deliverance From Error), identifies four competing epistemological positions concerning the path to truth and salvation.

We can approach the debates about knowledge by considering an epistemological division that came to be associated with what were called *al-'ulum al-naqliyya* (the transmitted sciences) and *al-'ulum al-'aqliyya* (the sciences of reason). The former consisted of the study of the Quran and the life of the Prophet, and all that can be derived from them; this knowledge was seen as coming directly from God, and hence humans could only transmit it. 'Ulema (religious scholars) as the guardians of this knowledge play a central role in Muslim educational traditions. In contrast, *al-'ulum al-'aqliyya*, which included philosophy, astronomy, medicine, mathematics, and other disciplines, were underpinned by the belief that knowledge was derived from the senses and reason and not, or not only, from divine revelation. (This is one particular formulation of the classification of knowledge; others are available, but they share a similar epistemological outlook.)

These epistemological attitudes, sometimes identified as those stressing either reason or religious authority, were often in tension with each other. In a context dominated by religious ideas, it was the philosopher (the paradigm case of *al-'ulum al-'aqliyya*) who had to legitimize his stance by arguing for the complementarity of reason and religious authority as sources of knowledge and/or by seeking the justification of philosophy in religious terms. One approach can be found in a work by Ibn Rushd (d. 1198). The second approach can be found in a work of philosophical fiction, or an extended thought experiment, called *Hayy Ibn Yaqzan* (Alive, Son of Awake), written by Ibn Tufayl (d. 1185). In this story, Hayy grows up on an uninhabited island and is cared for by a gazelle. Through unaided reason, he gradually acquires the knowledge of essences and existence, and he experiences states that were believed to be beyond the grasp of the human senses. Through the encounter of Hayy with another character, Absal, a pious religious person from a neighboring island, Ibn Tufayl seeks to show that philosophical reason could lead to the ultimate truth—the same truth that was also symbolically hidden in the religion of the ordinary people, though most of them were unable to reach it. Thus, the book claimed harmony between philosophical practice and religious teaching.

While Ibn Tufayl approached the issue of reason and authority in a fictional narrative, his younger friend Ibn Rushd approached the issue more directly. In his *An Authoritative Treatise and Exposition of the Convergence Which Exists Between the Religious Law and Philosophy*, Ibn Rushd made a case for philosophy as a legitimate activity within the Islamic legal framework. The central thesis of the treatise was that philosophy was justified by the Quran, and in fact, those who have the capacity to engage in it have an obligation to do so. Demonstrative methods of philosophy (in which a deduction from accepted premises produces knowledge), Ibn Rushd argued, led to the reconciliation of any apparent conflicts between the teachings of scripture and philosophical conclusions derived through an allegoric interpretation of the Quran.

Ibn Rushd—and perhaps Ibn Tufayl as well—was responding to an earlier critique of philosophy by the theologian al-Ghazali, who objected to specific aspects of the philosophic tradition. In his *Tahafut al-Falsifah* (Incoherence of Philosophers), Ghazali had criticized philosophers' claims about demonstrative methods and about accessing certain knowledge of metaphysical realities. His intention was to show that truth was found neither in reason nor in sense perception but in religious orientation, particularly in *kashf* (the unveiling or self-revelation of the truths to human hearts). Aided by many political developments, the Ghazalian position gradually became predominant (though never completely so) and came to underpin much of the educational tradition of Muslims.

Muslim Educational Thought in the Modern Period

Both educational practice and thought took new forms in the modern period, though the legitimizing role of the traditional ideas remained strong. The 18th and 19th centuries saw the beginnings of an upheaval in Muslim educational traditions as large parts of the Muslim world came under the influence of colonial powers. Modernity, in its colonial form, was transformative for Muslim societies, as it was for other non-European societies. The European rule not only was a change in military terms but also led to the rise of a new culture that challenged almost all aspects of Muslim tradition, including the intellectual and educational aspects. Modern schools, higher education institutions, new official languages, and, above all, a new

epistemology—all challenged the traditional education of Muslims.

Those who were later designated as modernists, be it at the level of the state (Ottoman Sultan Selim III [r. 1789–1807]) or in society (Sayyid Ahmad Khan [d. 1898] in South Asia or Rifa'a al-Tahtawi in Egypt [d. 1873]), saw the new situation as requiring a significant or even fundamental change in the education of Muslims. Others, often termed *traditionalists*, believed that a revival of intellectual life rather than replacement with European ways should be the way forward to regain the glory of Islam and Muslims. The founding of Dar al-'ulum Deoband (a seminary in the city of Deoband in northern India) in 1867 was a seminal event in this regard. Still others aimed at finding a middle way between what they saw as extremes of Muslim responses to the new realities. Underpinned by a desire to reconnect hope and history for Muslims, the Muhammadan Anglo-Oriental College (later Aligarh University), Deoband Madrasa, Sadiki College, and reformist trends at al-Azhar and Dar al-'uloom Nadwatul 'Ulama were examples of new institutional experiments reflecting these educational outlooks.

Many postcolonial states in Muslim-majority countries, adopting the modernization paradigm and human capital theory, promoted modern schools and universities, within which there was a provision for religious instruction. Religious education was thus a subject among others and as such served as part of the state's economic and nationalistic agendas. This objectification of religion as a school subject within the broader educational system is a common feature across most Muslim countries. Despite state support, modernist education in most Muslim-majority societies suffers from underinvestment, lack of planning, gender inequality, unsatisfactory pedagogical quality, and poor governance.

Alongside this, the traditional religious system retained its moral relevance and continued to flourish. Institutions such as al-Azhar in Egypt, Zaytunia in Tunisia, and Deoband in India retained their religious authority with various negotiated arrangements with the state. Thousands of *makatibs* ("elementary schools") and madrasas across the Muslim world continued to provide religious education.

The vast majority of Muslim children straddle the two systems, receiving education in science, math, languages, history, and other subjects in schools and attending *makatibs* and madrasas for a few hours daily or weekly for religious, particularly Quranic recitation, and moral instruction. Thus, the main

educational response to the currents of modernity in Muslim societies has been to juxtapose the new and the old, the traditional and the modern schools and universities. An exception was Turkey under Kemalism, where the *makatib*–madrasa system was abolished, but only for a time.

This situation was seen as philosophically unsatisfactory by several Muslim scholars who found the dual educational system to be creating a fragmented personality among learners. For some scholars, the underlying tensions were reminiscent of those between reason and authority in Muslim educational history. The problem of a dual system was among the main diagnoses by a seminal conference on Muslim education held in Makkah in 1977, calling it the main source of the crisis in Muslim education. Fazlur Rahman (d. 1988), arguably the most prominent Muslim scholar of the second half of the 20th century, saw Muslim education as caught in a "vicious circle" of poor curriculum and poor teachers.

In response, scholars sought to find a unifying system of education (often invoking the unity of God as its justification) transcending what was seen as the religious and secular divide. In this, they have followed the footsteps of al-Ghazali, seeking to subordinate reason to revelation. Three Arabic terms—*Ta'lim* ("to know/instruct"), *Ta'dib* ("to be refined/disciplined"), and *Tarbiya* ("to grow/nurture")—are often used to refer to education in the Islamic sense. While people such as Ismail Faruqi (d. 1986), Naquib al-Attas (b. 1931), and Ali Ashraf (d. 1998) worked by stressing the differences between what they called Western and Islamic education, more recent scholars, such as Sahin (2013) and Waghid (2011), have attempted to find common ground between the two. All these efforts are underpinned by a desire to combine loyalty to the Islamic faith with material success in the modern world.

These efforts have their critics, including among Muslims, who question the very idea of Islamic education and the search for a distinctive Islamic epistemology and pedagogy. For them, religion should not be encroaching on the autonomy of science, history, mathematics, and other subjects.

While many are concerned about the division of education in Muslim societies along secular and religious lines, equally important fragmentations remain in place along some other dimensions, such as military and civil, and private education and public education (which, in some instances, means private elite and resource-starved public systems), and

there is also an educational divide along gender lines. Though not limited to Muslim contexts, these other lines of fragmentation are sometimes overshadowed in academic discourse by the attention given to the religious/secular divide.

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See also Childhood, Concept of; Jewish Educational Philosophy; Modernization Theory; Religious Education and Spirituality; Religious Symbols and Clothing

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N

NARRATIVE RESEARCH

Narrative is a primary and universal cognitive instrument, found in all cultures. While the kinds of stories people tell vary from culture to culture, the storytelling impulse itself seems to come quite naturally to us—storytelling is a ubiquitous human activity. We tell stories as easily and effortlessly as we grasp the stories of others. Louis Mink (1978) argues that narrative is an irreducible way of making the flux of experience comprehensible to ourselves and to others. Narrative as the practice of storytelling has thus been with us for a long time, and so has narrative theory, which is commonly traced back to Aristotle's *Poetics*.

Today, the idea of narrative has found its way into almost every discipline and profession. Since the 1960s, there has been a veritable explosion of narrative research, and it is now very much a cross-disciplinary study. We find narrative research in history, literature theory, education, psychology, anthropology, sociology, and communication studies and in professions such as medicine, law, teaching, nursing, social work, and many forms of therapy. Donald Polkinghorne (1988) argues that narrative is the basis of practitioners' work. Arguably at least, partly as a result of this proliferation, the term *narrative* is used in a variety of ways by different researchers in different domains. Catherine Riessman and Jane Speedy (2007) hold that the term has come to mean anything and everything; specificity has been lost with popularization. The term can refer to ideologies, overarching paradigms, entire life stories,

observations, small interview excerpts, and documents. The prospects of a single unitary definition of narrative thus might seem slim. However, most narrative researchers insist that all uses of the term have something in common, something that distinguishes narrative from other discourses. This entry defines narrative as a form of representation and discusses how a narrative can be the subject of study, can provide data in the form of interviews, or can be the form of the report that is generated from a study.

A narrative, or a story, is a grasping together of diverse elements such as characters, plots, actions, and events into a meaningful, coherent, and temporal whole marked by a beginning, a middle, and an ending (Ricoeur, 1984). These conceptual presuppositions go back to Aristotle. The process of "grasping together" is done by a narrator and is known as emplotment or narrative configuration—that is, finding a "plot," an organizing principle that allows the pieces of the story to fall into place in relation to each other. The focus is on the particular, not the general. Virtually, all narrative researchers highlight temporality, sequences of events, and wholeness.

Narrative is thus a form of representation that by its structure differs from other forms of representation, such as theory, chronicles, formulas, or reports. But is it also a distinct form of research? Narrative research is a broad heading. It is largely seen as a subfield of qualitative research, but with a great diversity of strands—realist, modernist, postmodernist, constructivist, and so on—that are played out differently in different domains. The landscape of narrative inquiry is quite complex, with borderland spaces and tensions, for example, as discussed by

D. Jean Clandinin and Jerry Rosiek (2007). Narrative research shares many of its dimensions with other qualitative methodologies: (a) the emphasis on the particular words as data, (b) the importance of context, (c) the acknowledgment of the subjectivity of the researcher, (d) the importance of the relationship between the researcher and the participants, and (e) the voice of the participants. Despite these similarities and overlaps, narrative empirical research can still be distinguished from other forms of empirical (qualitative) research: Stories come into play in narrative research in different ways.

First, stories may constitute the phenomenon under study. This is uncontroversial if taken to mean that narrative researchers study the stories people tell, how they tell them, and when, why, and to whom. But here we find an important distinction in the field: between stories as told and stories as lived. Clandinin and F. Michael Connelly (2000) argue that stories are not only told but also lived, expressed in people's experience that is narrative in nature. Narrative inquiry should therefore first and foremost concern people's experience, they argue. The more common view is that stories are told and that experience does not necessarily have narrative form but is given this form in the telling (e.g., Currie, 2010; Danto, 1985; Mink, 1978; Ricoeur, 1984). This view generally pays more attention to the facets of configuration and the role of retrospection and hindsight, since stories about events or happenings are told after the fact.

Second, stories come into play in narrative research because they (can) constitute the data. Riessman (2008) argues that researchers and participants together construct the narratives that the researcher then uses as data. The method used is often interview, but the data are cast in narrative form before being analyzed by the researcher. The analysis of the data can then proceed in different ways, for example, thematic, structural, performance, or visual analysis (using both pictures and words as data). It is important to Riessman that the narratives used as data are co-constructed by the researcher and the participant and that the story is kept as a whole throughout the analysis, not parsed into segments. Narrative inquiry is basically case centered, not theme or category centered.

Third, stories enter into research because the researcher may write up his or her report in narrative form. That is, one may write up one's research report as a story with a plot, characters, events, and actions, satisfying the demands of coherence and temporal

wholeness. For Clandinin and Connelly (1991, 2000), for example, narrative is the best way of representing and understanding experience because narrative thinking is a key form of experience. The form of representation is thus thought to reproduce and reconstruct the narrative structure of the material.

Human discourse proceeds on certain standards and ideals for evidence, inferential strategies, truth, and so forth, and in research, these demands are higher than in everyday discourse. Narrative research has been criticized for eschewing time-honored epistemic values such as truth and objectivity and overemphasizing the subjectivity of the researcher. This is certainly true of some strands of narrative research, but not necessarily of all—the philosophical background of narrative research is unclear, and its epistemological commitments vary from strand to strand. In a similar vein, narrative research is criticized for using criteria of evaluation that fail to distinguish between fiction and empirical research, between good and true stories (e.g., Phillips, 1997). Narrative is also criticized for resembling rhetoric more than research to the extent that it seeks to persuade the audience with a compelling story rather than convince it with a story backed with evidence—however, the picture is complex and allows no generalization.

Tone Kvernbekk

See also Aristotle; Knowledge, Analysis of; Postpositivism

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NEILL, A. S., AND SUMMERHILL

Summerhill, a pioneering experiment in progressive and democratic education, was founded in 1921 by A. S. Neill, and is today a coeducational boarding and day school located in Suffolk, England, directed by Zoe Readhead, Neill's daughter. Begun as part of an international school called the Neue Schule near Dresden, Germany, the school soon moved to a castle on top of a mountain near Sonntagsberg in Austria, and in 1923 to the town of Lyme Regis in the south of England, to a house called Summerhill. In 1927, the school moved to its present site at Leiston in Suffolk, keeping the cheerful name Summerhill. During World War II, the school community evacuated to Wales for a time so that the British Army could use the site as a training facility, returning after the war to a run-down place.

Neill founded Summerhill when he was 37 years old and already well-known in England for his critical writings on education and child psychology. He had been influenced by the intellectual revolution

of Sigmund Freud, by the juvenile-prison reformer Homer Lane, and by the controversial psychiatrist Wilhelm Reich, and he was by his own estimation in flight from his Calvinist upbringing and from the tyrannical rule of a cruel father.

Summerhill school has been running continuously since 1921, and it has consistently adhered to its essential character and philosophy, which can be concisely stated as the belief that the school should be made to fit the child, rather than the other way around, and that the function of the child is to live his or her own life—not the life that anxious parents think best, the life prescribed by authoritative and certified experts, or the life approved by convention and social norms. Neill advocated free thinking, initiative, and courage and railed against the forces of obedience and conformity. Neill believed that play belongs to the child absolutely and that children ought to be free to play as much as they like. Free, creative, and imaginative play is an essential and entirely natural part of childhood, he argued, and was more therapeutic for troubled youngsters than the Freudian-oriented individual counseling sessions that Neill also made available. Therapeutic, spontaneous, energetic, and useful play could only be undermined if adults tried to channel it toward “learning experiences.”

The philosophy and practice of Summerhill explains in part all the early relocations: Affiliated educators and neighbors found the school altogether too radical and even a bit nuts. Neill himself was a commanding figure—a tall, stooped, grandfatherly figure; an opinionated Scotsman; and a severe Calvinist in upbringing and bearing—and he courted controversy.

Neill's seemingly bottomless commitment to children, his steadfastness and emotional generosity, his eccentric interactions with kids, and his willingness to take the side of the child even, or especially, when doing so seemed more than a little loony became the stuff of legend: A boy was charged at the General Meeting (the main organ of governance, at which all residents had the right to speak and vote) with destroying books in the library, and Neill proposed that he be appointed chief librarian; a girl was thought to be stealing money, and Neill gave her a few coins after each offense; Neill happened on a couple of lads breaking windows with rocks and quickly joined in the mischief. In each of these emblematic or apocalyptic stories, according to Neill, the misbehavior disappeared almost instantly, providing further proof, if any were needed, that

children flourished when they were accepted and encouraged to live their lives free of fear.

In these oft-told tales, Neill can be rather easily discounted, for there's an innocence here—his apparent credulousness about simple psychological explanations and his faith in the beneficence of humanity in a state of nature—as well as a sense of mild hectoring, as if he's hiding some of the evidence, marshaling his arguments for battle. But Neill was awakening to a revolution in thought in the early 20th century, a revolution shaking all the old foundations and laying the groundwork for the modern world: the rejection of superstition in favor of reason, the triumph of science, the positing of an unconscious in every human soul, and the discovery of hidden laws in nature and in society that could be understood and mastered for the good of all. He broke with tradition, then, took the side of the avant-garde and the experimental, and created his daring school in the hope that his efforts might contribute to greater happiness in the world. For Neill, the principles guiding Summerhill were identical to the basic requirements for a healthy life, and they numbered two: (1) love and (2) freedom.

The school was depicted in the British press as the “Do As You Please” school, but over time, it won the respect of many well-known educators, artists, authors, and social scientists, including Bertrand Russell, Henry Miller, and Margaret Mead.

In the 1960s, Neill was approached by Harold Hart, a publisher from the United States, who wanted to publish a compilation of Neill's writings. The result was the book *Summerhill: A Radical Approach to Childhood*, an international sensation that put Neill and Summerhill on the map as leaders in alternative and progressive education. Some, of course, saw Neill as a pandering Pied Piper of sin and depravity, a naive fool or a dirty old man, the Devil incarnate, while others said that he was a prophet and a liberator. Similarly, Summerhill was pegged as either a little Gomorrah or a kind of Eden.

Summerhill, with its message of love, peace, and freedom combined with its sharp critique of authoritarianism of any kind, hierarchy, control, sexual repression, shame, and punishment, hit the American zeitgeist of the 1960s like a divinely guided missile. Of course, Summerhill was no more an idea of the 1960s than were sex, youthful upheaval, or rebellion, but it was for many a brilliant idea newly vitalized in a revolutionary age. It became a required text in the blossoming counterculture, and both

inspiration and road map to a generation of teachers and education writers. John Holt, Herbert Kohl, Jonathan Kozol, Paul Goodman, Bob Davis, and George Dennison all reported important encounters with Neill's book.

For Neill, humanism was the starting point, the affirmation of the humanizing potential and the rejection of authoritarianism, cruelty, domination, or hierarchy in the domain of childhood. “The difficult child is the child who is unhappy,” Neill writes. “No happy man ever disturbed a meeting, or preached a war, or lynched a Negro” (Neill & Lamb, 1995, p. 7). The link between happiness, confidence, fulfillment, and a more balanced social order was obvious to Neill—there simply was no convincing argument for cruelty, repression, or exploitation in the lives of children. Education for human development was linked to freedom and social justice.

In the United States, Europe, and elsewhere, schools and education are contested spaces today, and, as many critical observers have pointed out, the noisy and wealthy forces setting policy and dominating the conversation just now represent the antithesis of Summerhill: raw competition, sorting students into winners and losers based on the flimsiest evidence, reducing development to a thin and anemic measure, bullying teachers and denying them any collective voice in educational matters or any role beyond clerking and monitoring, and privatizing the public space. Neill is battered, but he is far from dead.

Summerhill is still run as a democratic community with the business of the school conducted in school meetings, which serve as both the legislative and judicial body. Anyone, staff or pupil, may attend meetings, and everyone, from the youngest child to the head of school, has an equal vote. Members of the community are expected to make the decisions that affect their lives—a radical notion of participatory democracy in practice—and are free to do as they please, as long as their actions do not cause harm to others. This extends to the freedom for pupils to choose which lessons, if any, to attend. All of this is the embodiment of Neill's guiding principle: freedom, not license.

William C. Ayers

See also *Century of the Child, The*: Ellen Key; Little Commonwealth: Homer Lane; Progressive Education and Its Critics; Psychoanalytically Oriented Theories of Child Development; Rousseau, Jean-Jacques

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NEOLIBERALISM

Neoliberalism refers to a political-economic paradigm based on an ideology that calls for the state implementation, facilitation, and enforcement of free-market economic systems and logic across national and global settings, and effectively across all forms of human organization and decision making. Initially rising to prominence in the 1980s in the United Kingdom and the United States following the elections of Margaret Thatcher and Ronald Reagan, respectively, neoliberal discourses and policies have significantly shaped the 21st-century world order. Although neoliberalism has taken on a number of provincial characteristics and morphed into several strands (e.g., British Third Way, German ordoliberalism), they all share a number of key ideological and policy positions. This entry identifies the key theoretical influences, premises, and policy prescriptions and briefly reviews the global effects and criticisms of neoliberalism.

Origins and Basic Premises

The coinage of the term *neoliberalism* as it is understood in its contemporary usage is credited to the Swiss economist Hans Honegger, who introduced it in his 1925 book *Trends of Economic Ideas* and identified it with doctrines that propagated entrepreneurship and competition and a rejection of socialism (Mirowski & Plehwe, 2009). Over the decades that followed, prominent intellectuals from the Austrian, Freiburg, and Chicago schools of economics, among other Western epistemic communities, have added to the neoliberal framework.

However, the most systematic theorization of neoliberalism comes from the Mont Pelerin Society (MPS), whose members have included influential economists like Milton Friedman, Friedrich von Hayek, Gary Becker, and James Buchanan.

Following World War II, the MPS formed in 1947 to combat the spread of both socialist and Keynesian ideas, arguing that any form of extensive government central planning, whether Keynesian capitalist or Marxist-Leninist, however benevolent and well intentioned, creates high inflation, stagnating economies, and unproductive workforces and results in the loss of individual freedom and entrepreneurial incentives. Drawing on what are arguably 19th-century social Darwinist conceptions of natural and self-regulating markets, negative liberty, and instrumental rationality, members of the MPS argued that individuals and countries are instead best served by free-market systems. According to the MPS, human beings are inherently and predominantly rational, self-interested, and competitive agents. These natural properties are in turn most effectively channeled through free-market economic structures, as they allow for cognitively unhindered consumers to engage in perpetual cost-benefit analyses and freely choose between market allocated options and practices that are in accordance with their perceived self-interests. Theoretically, this will generate positive societal outcomes that meet all human needs, as natural market mechanisms, undistorted by excessive government intervention, will ensure outcomes that are beneficial to all of society. Conversely, market mechanisms will ensure punishment for businesses that commit fraud, deliver poor service, practice discriminatory hiring policies, or produce hazardous and dangerous products.

The freedom of the consumer in choosing what he shall buy, the freedom of the producer in choosing what he shall make, and the freedom of the worker in choosing his occupation and his place of employment, are essential not merely for the sake of freedom itself, but for efficiency in production. Such a system of freedom is essential if we are to maximize output in terms of individual satisfactions. Departure from these individual liberties leads to the production not only of fewer goods and services but of the wrong goods and services. We cannot enrich ourselves merely by consenting to be slaves. (MPS Draft Statement of Aims 1947, in Mirowski & Plehwe, 2009, p. 23)

Policy Implications and Rationale

The MPS, and neoliberals more generally, are not, however, laissez-faire advocates calling for a total elimination of the state. Far from a hands-off approach, they argue that a sound and prosperous

economy and free society necessitates state intervention to shore up markets in times of economic crisis, enforce contracts and property rights, fund minimal social services, and control inflation (Friedman, 1948; Gill, 1998).

At the macroeconomic level, neoliberals advocate for macroeconomic monetary policies aimed at controlling inflation coupled with policies that lower marginal income and corporate taxes; neoliberals argue that governments and central banks can help increase and stabilize the real value (as opposed to nominal value) of financial assets. Doing so puts more money into the hands of individual investors and entrepreneurs and incentivizes them to make investments, which in turn will lead to the creation of jobs and more efficient economic growth than can be achieved by means of government fiscal stimulus policies. Correspondingly, the economist Arthur Laffer argues that high tax rates lead to decreasing government revenues as they cause the wealthy to invest less and to work fewer hours and hence be taxed less. Therefore, decreasing the tax rate on the wealthy encourages them to work more hours and make investments that lead to the creation of more jobs, which will have the ancillary effect of increasing government revenues (Steger & Roy, 2010). At the international level, neoliberals argue that countries should eliminate trade barriers such as excessive taxes and regulations, curb their budget deficits, and focus on exports and the enforcement of property rights. In doing so, countries can gain from their economic comparative advantages in production and labor, maintain market credibility and fiscal solvency, and thereby attract foreign direct investment, which will induce and accelerate economic growth and development.

Furthermore, contrary to popular perceptions, neoliberals recognize the need for fiscal policies to fund social safety nets and public institutions (Hayek, 1994). However, they argue that the scope of the welfare state should be reduced and that public institutions like schools should be organized around business models and primarily concerned with preparing individuals to compete effectively in the global labor markets (Friedman, 2002). In the education context, for example, neoliberals favor parental choice, voucher programs, and high-stakes testing as a means to improve public education. According to the rationale, if schools are granted funds based on how many students they can attract, and if parents are allowed to send their children to schools based on how well they perform on

standardized tests (whose supposed objective measurements are meant to mimic the price mechanisms of the market and, thus, provide parents with the necessary information to make a sound and rational choice of which schools best serve their children's needs), then the ensuing competition will generate high-quality schools and weed out underperforming ones.

Overall, neoliberal policy prescriptions seek to incentivize national and international investment, facilitate entrepreneurship and competition, and preserve individual freedom by limiting the state's ability to intervene in how individuals choose to utilize their capital, while allowing for some state intervention. Although these policy prescriptions may not generate an ideal free-market system, neoliberals argue that they can best approximate the meeting of the long-term objectives of political freedom, economic efficiency, and equality of economic power (Friedman, 1948; Steger & Roy, 2010). In sum, neoliberal policies encompass intertwined and mutually reinforcing domestic and international objectives, which can be characterized as follows:

- The liberalization/deregulation of domestic and international trade and commerce (e.g., finance, labor, production, commodity, transportation, and education markets) and uniform import/export tariffs between nation-states for all parties involved to gain from their respective comparative advantages
- The privatization of natural resources as the private sector is better suited to take care of the management of natural resources than are governments or the commons
- The privatization of state enterprises including education, health services, security, and municipal services (in such cases where state enterprises and services cannot be privatized or completely dismantled, they should be transformed into market apparatuses—via the implementation of neo-managerial policies and accountability metrics and targets to measure outcomes, eliminate wastefulness, and incentivize positive performances)
- The elimination or reduction of government welfare institutions (in such cases where welfare institutions cannot be completely dismantled, they should be turned into market apparatuses—via the implementation of accountability metrics and targets to measure outcomes, eliminate wastefulness, and incentivize positive

performances—that help train welfare-dependent individuals to be self-reliant and entrepreneurial workers who can better compete in the labor market)

- The elimination or reduction of income tax, corporate tax, capital gains, and property taxes
- The governmental curbing of budget deficits, control of inflation, protection and enforcement of contracts and property rights, and intervention in opening up new markets
- The removal of macroeconomic policy decisions from formal democratic institutions

Globalization and Neoliberal Governance

The second half of the 20th century was characterized by a series of global crises and transformations that brought about the end of Keynesianism and the ascendancy and global implementation of neoliberal policies (Gill, 1998). By the 1980s, the Thatcher and Reagan administrations followed the neoliberal policy package: They cut taxes on businesses and income, shrank the power and size of regulatory state agencies, and loosened or lifted financial, safety, labor, antitrust, and environmental regulations. These policies, in conjunction with the global trade policies and multilateral agreements spearheaded by the World Bank, International Monetary Fund, and World Trade Organization, helped initiate and accelerate the processes of economic globalization, which are characterized by the free flow of capital within and across nation-states, the increasing interconnectedness and interdependence of national economies, and the rise and dominance of transnational corporations and financial institutions (Gill, 1998). After the collapse of the Soviet Union in 1991, and throughout the 1990s and 2000s, neoliberal “globalization” was legally cemented by a series of multilateral international free-trade agreements, which, to various degrees, incorporated the majority of the world’s economies to produce a global market society (Steger & Roy, 2010).

The 2008 global financial crisis gave rise to widespread questioning of the neoliberal discourse that unregulated market forces would bring about global peace and prosperity. The next section suggests that the grounds for a more lingering disquiet have not been resolved. However, while national governments responded differently to the crisis, the majority of them held on to their position that neoliberal policies would solve the looming global problems of

unemployment, sovereign debt, climate change, and poverty (Braedley & Luxton, 2010). The Obama administration, for example, followed the advice of Milton Friedman and carried out stages of quantitative easing to stabilize major banks and financial markets, implemented fiscal austerity measures that cut funding for social services, and enacted education policies like the 2009 Race to the Top Initiative that further inflected public schools with the market principles of accountability, competition, and consumer choice.

Criticisms of Neoliberalism

While advocates maintain that given enough time neoliberal policies will usher in global prosperity and democracy, critics argue that the neoliberal era has seen an increase in global financial crises and social inequalities and unrest. For example, Chomsky (2011) argues that the widespread riots, volatile financial markets, and political instability that—following the 2008 financial crisis—unfolded in Greece, Spain, and Italy, and the drastic cuts in public spending implemented by Canadian, U.K., and U.S. governments, closely echoed events characteristic of the 1980s and 1990s’ neoliberalization of the developing world. During this period, from Mexico to Russia, to Argentina and Thailand, entire national economies crashed one after another under the weight of unsustainable financial speculation and lapsed capital controls (e.g., the 1994 Tequila Crisis or the 1997 Asian Financial Crisis), which were encouraged and facilitated by pro-neoliberal institutions like the World Bank, the International Monetary Fund, and the World Trade Organization. Critics maintain that these and other pro-neoliberal institutions forced liberalization and deregulation onto the developing world, which was accompanied by drastic austerity measures and increases in the privatization of public resources, poverty, and unemployment (Steger & Roy, 2010). As Harvey (2005) argues,

For those left or cast outside the market system, a vast reservoir of apparently disposable people bereft of social protections and supportive social structures, there is little to be expected from neoliberalization except poverty, hunger, disease, and despair. Their only hope is somehow to scramble aboard the market system either as petty commodity producers, as informal vendors (of things or labor power), as petty predators to beg, steal, or violently secure some crumbs from the rich man’s table, or as participants

in the vast illegal trade or trafficking in drugs, guns, women, or anything else illegal for which there is a demand. (p. 185)

These criticisms notwithstanding, it is very likely that neoliberal ideas will continue to have a significant influence on the policy perspectives of most of the 21st-century governments.

Rodolfo Leyva

See also Accountability and Standards-Based Reform; High-Stakes Testing; Liberalism; Social Darwinism

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on cognitive and emotional development in general. The field has been stimulated by the improvement of brain imaging techniques, which allow recording electrical activities as well as metabolic processes such as oxygen and glucose consumption going on in the brain while humans are engaged in behavior or exposed to information. As the brain is undoubtedly the most important body part for learning and education, it is no wonder that progress in understanding the structure and the functioning of this organ also affected the way of seeing schooling and other forms of institutional learning. The number of books, journals, academic societies, and study programs focusing on the intersection of brain research and educational science has exploded ever since.

From the very beginning of its emergence, the field was perceived with mixed feelings, particularly among educational scientists. On the one hand, getting information about human functioning beyond testing or observation of behavior by recording brain characteristics was highly appreciated, particularly for explaining learning difficulties such as dyslexia and dyscalculia. On the other hand, educational and behavioral scientists were concerned about the uncritical enthusiasm and the unrealistic expectations among many teachers and policymakers when presented with slogans like “brain-based learning.” At least partly motivated by the principle “If you can’t beat them, join them,” since 2000, many learning researchers with a background in psychology or empirical educational research launched various initiatives that were supposed to develop promising but realistic frameworks for combining neuroscience and educational research.

Well-established academic societies in the field of schooling and education, such as the American Educational Research Association and the European Association of Research on Learning and Instruction, have established special-interest groups with a focus on educational neuroscience. All over the world, private and public science foundations have initiated and launched both permanent centers and temporary research programs on the intersection of learning research and learning, and several universities are offering study programs on this issue. Moreover, a fast-growing international academic society named IMBES (International Mind, Brain and Education Society) was founded and has been editing a journal since 2006. This society seeks to support cooperation between scientists of different disciplines (mainly biology, educational science, and psychology) and to stimulate the dialogue between

NEUROSCIENCES AND LEARNING

Educational neuroscience emerged as an interdisciplinary field during the so-called decade of the brain (1990–1999) and has attracted enormous attention in the scientific community as well as among a broader public, including teachers and policymakers, ever since. The connection between neuroscience, psychology, and education is expected to broaden the perspective on human learning and teaching as well as

educational practice and science. As a consequence, school teachers are encouraged to join the society as well as attend its biennial meetings.

The Bidirectional View on Neuroscience and Behavioral Research

In their mission statements, the aforementioned societies emphasize that there is no one-way path either from neuroscience to psychological and educational research or from science to educational practice. This is an important point, because it implies a riposte to misguided and simplistic beliefs about what facilitates or impedes learning. Examples of such widespread naive beliefs, also labeled as neuromyths, include the following: Music or brain jogging make us smarter because they promote synaptogenesis, or the formation of synapses between neurons; younger people learn better than older ones because of their greater brain plasticity; and people learn better when they are in a positive mood because it stimulates the amygdala. Considering such statements as being scientifically well-founded goes along with the assumption that neuroscience as the “harder science” can deliver better explanations than psychological or education theories can. Moreover, this assumption implies that progress in understanding brain functioning will inevitably lead to a better understanding of learning and educational practice. Such naive views, however, can easily be reduced to absurdity, as a pertinent example from a different field illustrates. Consider an expert committee of engineers in charge of investigating an air crash coming up with the explanation that the plane came down because of the Earth’s gravity. Although this is correct from the perspective of physics, it does not at all explain what technical system had broken down in the particular airplane, and what has to be done to avoid future air crashes—there is not one solitary causal factor at work but rather a set of interacting factors are involved.

Learning and education have to be understood as the interaction between an individual (including his or her brain) and the environment. A better understanding of the chemical processes taking place in synaptogenesis will not at all contribute to a better understanding of the difficulties students have with algebra, and, of course, it will not inform teachers about appropriate classroom practice. The scientific concepts and constructs used for understanding the chemical and biological basis of brain functioning are different from the concepts and constructs used in psychology and educational science to explain

cognition and learning. Simply recording a person’s brain activities does not tell us anything about what she is thinking or learning. On the other hand, observing that a person has reached a particular learning goal after several trials allows us to conclude that synaptogenesis must have taken place, but nothing beyond. Understanding the brain and understanding cognitive and behavioral functioning and education are distinct research goals that need not only different concepts and constructs but also different methods and standards for evidence. The goal of educational neuroscience is not to break off well-established disciplines but rather to provide a forum for addressing interesting and important research questions that go beyond the boundaries of a single discipline. Better understanding under what conditions learning and instruction at school live up to the expectations held in these institutions is a complex goal that requires the concentrated efforts of different disciplines.

Psychology has a long tradition of making quite vague concepts of mental states and mind-sets measurable by tests and questionnaires and thereby opening them to scientific investigation—intelligence, reasoning, working memory, executive control, or anxiety are examples. Similarly, neuroscience can not only contribute new methods of brain imaging but also lead to insights into the functioning and the architecture of the brain, including developmental changes across the life span. In this way, neuroscience can contribute to the question of whether particular brain characteristics facilitate or impede learning during a particular period of life. On the other hand, the focus of educational research is on the features of learning environments, including methods of instruction, teacher characteristics, ways of designing and presenting learning material, and many more. In this research tradition, educational scientists have developed valid and usable categories for classifying aspects of learning environments that help systematize the complexity of schooling and thereby make it appropriate for scientific inquiry.

Added Values of Combining Neuroscience and Behavioral Research

Evolution has equipped all animals—from insects to humans—with a mechanism of adaptation to their environments, namely, brains that are prepared for learning. At the same time, learning leaves changes in the brain that result from neural activity and communication between neurons. Decades

before brain imaging techniques became matter of course, Donald Hebb formulated the core principle of learning on a neural basis: “Neurons that fire together wire together.” Based on this principle, mainly in animal research, neuroscience has uncovered chemical and physical processes taking place in the brain during learning. For instance, the pivotal role of the neurotransmitter dopamine for learning by reward and punishment has been elucidated. This line of research made use of the psychological paradigms of classical and operant conditioning, and it has enriched the explanatory power of the learning theories. Among other factors, dopamine release can determine the speed with which new stimulus–response connections are acquired. Learning by operant and classical conditioning, however, is not the primary goal of institutional learning and education. Rather, the focus of schooling is on the acquisition of symbolic skills in literacy and mathematics, as well as the acquisition of meaningful conceptual understanding in the complex content areas that have been developed. This enormous capacity for learning is unique to human beings.

Understanding the differences between human brains and those of other living beings is still in its infancy. It is, however, known for certain that the area in the human brain labeled as the “prefrontal cortex” is crucial for meaningful cognitive activities and higher-order learning. Malfunctions in this brain area caused by injuries, strokes, or other kinds of brain diseases severely impede the functioning of working memory and executive control, which otherwise enable goal-directed behavior. This happens by storing and processing the relevant knowledge and by simultaneously suppressing irrelevant information. The prefrontal cortex undergoes dramatic changes during childhood and adolescence, and these changes are closely correlated with achievement on tasks of cognitive control and working memory, indicating that brain development determines whether an individual is able to make use of the learning opportunities provided by the environment or not. Identifying neural underpinnings of behavioral and cognitive changes in childhood and adolescence can help prevent parents and teachers from making unrealistic demands. Moreover, when it comes to the identification of children or adolescents at risk, the combination of brain indicators and behavioral data can provide a better basis for decisions on means of prevention than each single predictor can do.

The combination of behavioral research and neuroscience has particularly proven its worth when

it comes to the explanation and the identification of developmental and learning disorders. Until the 1970s, it was widely believed that many kinds of psychological disorders—from schizophrenia to autism to dyslexia and dyscalculia—were caused solely by unfavorable family or societal conditions. Thanks to the bidirectional view of educational neuroscience, such oversimple beliefs are things of the past. It is now understood that people can differ in their brain structures from the very beginnings of their lives, and these differences determine the degree to which they can profit from instruction. This is particularly the case for learning to read and to write, as well as for learning arithmetic. Several brain areas involved in the acquisition of these competencies have been identified, and differences between impaired and regularly functioning children have become obvious.

Final Conclusions

Using findings and techniques from neuroscience for researching school-related learning can clarify whether particular pedagogical interventions do not live up to the expectations teachers had placed in them because of students’ brain dysfunctions. Apart from that, neuroscience has not at all overturned theories and beliefs about effective instruction and classroom practice that had already been developed on the basis of traditional behavioral research. If anything, findings from behavioral studies were confirmed by results from brain imaging. Hence, there is no reason to consider neuroscience as part of teachers’ professional knowledge and to make it part of the compulsory curriculum of teacher education programs. Teachers are in charge of enriching and refining student’s knowledge in the respective content areas. Pedagogical content knowledge is the core of teacher expertise, and being aware of the current state of the art in neuroscience does not make them better teachers.

*Elsbeth Stern, Ralph Schumacher,
and Roland Grabner*

See also Cognitive Revolution and Information Processing Perspectives; Learning, Theories of; Pedagogical Content Knowledge: Lee Shulman

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Website

International Mind, Brain and Education Society: <http://www.imbes.org>

NEWMAN, JOHN HENRY (CARDINAL)

Taking its cue from Plato, Cicero, and St. Augustine, the medieval university asserted the primacy of a liberal education in the formation of the educated person. Little was added to this view until it was engaged by John Henry Newman (1801–1890) in the mid-19th century when liberal education and the classical ideals it represented came under severe criticism. This criticism was rooted in large part in the Industrial Revolution and the belief that studying the classics provided little preparation for social and economic progress in the new age of science

and technology. Newman’s *Idea of a University*, first published in 1852 and one of the most celebrated books ever written on university education, stemmed the flood of criticism.

There are three reasons why Newman supported liberal education. First, it gave one a comprehensive knowledge that is valuable for understanding the world we live in. Second, it provided what Newman labeled a philosophical habit of mind—the capacity to engage in critical or reflective thinking on ideas and values. And third, it inculcated gentlemanly dispositions of social interaction. Newman explained how all of this is possible by drawing on a theory of knowledge, a theory of mind, and a theory of personal influence regarding the teacher.

According to Newman, all knowledge is integrated. Like Plato before him, and Paul Hirst and R. S. Peters coming after, Newman’s theory of education is heavily influenced by his theory of knowledge. Here knowledge, which he refers to as the circle of the sciences—meaning the sciences or academic disciplines taken together—constitutes an integrated whole. This has important educational consequences: If human knowledge is unified, if all its parts are interrelated, to understand one part properly one needs to understand all others. For Newman, knowledge understood in this way had three major components: science, literature, and theology or, as we would likely view it today, the arts and sciences plus theology. But why theology?

Newman was a deeply religious person who in midlife converted from Anglicanism to Catholicism (he was beatified by Pope Benedict XVI in 2010). For him, theology had an essential contribution to make: It explains the relationship between human beings and God. Every bit as much as literature or science, it is an essential branch of knowledge or component in the circle of the sciences. If an individual does not study theology, he or she will not understand the rest of human knowledge; if a university does not teach it, it misrepresents the whole of knowledge and its explanation of the world is deficient. One of the reasons Newman spoke out strongly against the new University of London was because it excluded theology from its range of subjects.

Central to Newman’s theory of mind is his view that while humans have a natural capacity to think, in order to think properly, they need to be trained. Thinking or reasoning well means arguing in support of opinions and analyzing and critiquing the opinions of others. It is through the development of such skills in conjunction with broad knowledge that one

becomes a reflective, thoughtful person and develops the philosophical habit of mind. And the best preparation, in Newman's view, for developing the skills of reasoning is by studying the classics: Latin and Greek.

All of these ideas are consistent with the historical theory of a liberal education. This is less true of the attention Newman pays to the role of the teacher. This can be seen in *University Sketches* (1961) and in the emphasis placed on personal influence in *Oxford University Sermons* (1887), which Newman delivered several years earlier. Unlike John Dewey (1963), Newman did not use the term *concomitant learnings*, meaning those largely unintended learnings that take place in the classroom. He did employ much the same concept in speaking of the teacher, however, as he conveys that great teachers enlighten the mind and transform the subject matter; they infuse learning with vitality and charm through the power of personal influence: "Such is the spell which the living man exerts on his fellows" (Newman, 1961, p. 39), Newman wrote, that just to gaze on Plato would be an education. The teacher, or the tutor at Oxford University on which Newman draws, and the college with which the tutor was connected had a special role in developing the thinking skills. Related to this, the college had educational roles beyond the academic, leading Newman to elaborate a theory of university education extending beyond liberal education often overlooked in treatments of Newman's educational thought.

In addition to its academic role, in the college Newman saw a place for moral and religious formation. It was, in short, a home away from home (Newman, 1961, p. 182), where one could achieve intellectual discipline with assistance from the tutor, while also receiving guidance and support in personal matters, and, through the services provided by the chaplain in the college, having access to moral and religious education. Clearly, then, Newman located his theory of a liberal education within a concept of education that included moral, religious, and emotional formation. This is important to note because it shows that Newman expanded his educational ideal in a manner akin to contemporary writers such as Jane Roland Martin (1994). Even though Newman overlooked the education of women, he did express a feminist sentiment.

A much less explored area in Newman poses a special challenge to the theory of a liberal education (Mulcahy, 1973, 2008). Odd as it may seem, Newman laid the basis for strongly challenging or departing from the idea of a liberal education, not

least his own theory. Unlike criticisms of liberal education rooted in economic and other such considerations, if carefully considered and acted on, this criticism may ultimately serve to create and sustain a more vibrant theory of liberal education incorporating practical knowledge and education for action for which some have already begun to argue (Freire, 1971; Martin, 1994; Mulcahy, 2008; White, 2004).

It was in connection with his appointment as the rector of the newly established Catholic University of Ireland in Dublin that Newman wrote *Idea of a University* (1947b). Following his departure from Ireland, Newman returned to writing mostly on religious and related philosophical matters, as in *Grammar of Assent* (1947a). His retreat from the ideal of a liberal education can be viewed in relation to three matters discussed there: (1) notional apprehension, (2) real apprehension, and (3) reasoning in concrete affairs. Notional apprehension consists of notions or concepts, all of which are abstractions. A liberal education and the academic disciplines on which it rests also consist of generalizations or abstractions. Consisting as it does of generalizations, however, and introducing a critique of theoretical knowledge that has received almost no attention, Newman here maintained that scientific or theoretical knowledge may fall short of enabling us to grasp the truth in particular circumstances. He takes this implicit critique of liberal education, which draws primarily on theoretical knowledge, a step further when he talks of real apprehension as somehow more powerful and impressive than notional apprehension, in the way that having a toothache may be more informative and impressive than a scientific account of it. It may be more reliable as regards particulars and more compelling, and it drives our feelings and emotions and leads us to take action.

In placing Newman's concept of real apprehension alongside his concept of notional apprehension and his notion of reasoning in concrete affairs, it is difficult not to conclude that real apprehension is at least as valuable as notional apprehension or theoretical knowledge. It surely raises the question as to why Newman in his educational writings considered liberal education that relies so heavily on theoretical knowledge more highly than experiential or practical education, grounded as it is in concrete experience and real apprehension.

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See also Mill, John Stuart; Paideia; Plato; Spencer, Herbert; Transfer of Learning

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NIETZSCHE, FRIEDRICH

Friedrich Nietzsche (1844–1900) declared himself to be “not a man but dynamite.” It is true that he is best known for dramatic doctrines: the “death of God,” the will to power, the “superman” (*Übermensch*), and the notion of eternal return. Yet his status as one of the major Western thinkers rests on other contributions as well: an epistemology according to which “there are no facts, only interpretations”; an ontology that reverses Platonism by identifying reality with becoming rather than timeless being; and a “revaluation of values” that replaces traditional morality with new and contrasted values. In this entry, the relevance of Nietzsche's ideas to education is explored with emphasis on a theme that runs through his thinking: the relation between *knowledge* and *life*.

Nietzsche was born in Röcken, near Leipzig, a descendent of Lutheran pastors on both sides. A precocious and gifted scholar, he was appointed as professor of classical philology at the University of Basel at only 24 years of age. Early success was soon followed by a change of direction. His first book,

The Birth of Tragedy (1967a), departed from scholarly norms with a speculative model of contrasted “Apollonian” and “Dionysian” drives underlying Greek art. Influenced by a friendship with the composer Richard Wagner, Nietzsche began a new career as a public intellectual, urging cultural and educational reform in Germany. Chronic ill health led to his departure from Basel in 1879, followed by years of continual travel between Germany, Switzerland, and the Mediterranean coast. Turning wholly to philosophy, Nietzsche produced a steady output of books, read by few at the time but now regarded as landmarks in modern thought. Early in 1889, he suffered a catastrophic mental breakdown and spent his remaining years as an invalid. By the time he died, Nietzsche's reputation had spread widely, although the academic world came to take him seriously only well into the 20th century.

The State of Education

Nietzsche's extended writings on educational issues belong to his Basel period. A dominant theme is his dissatisfaction with his own discipline, classical philology. The key texts are a public lecture series, *On the Future of Our Educational Institutions*, and the essay “Schopenhauer as Educator,” third in a series with the general title *Untimely Meditations*. (A planned sequel titled *We Philologists* was never finished.)

The second of the *Untimely Meditations* is a useful starting point. Its theme is the study of history, but it begins with broader reflections on memory and forgetting. To be human is to have a relation to the past, yet action in the world requires us to turn away from what has been. The question of how we can live with this tension is explored by Nietzsche with considerable subtlety. He distinguishes three kinds of history and shows how each can contribute to a fuller, more flourishing life, and yet can also damage life. “Monumental” history provides models of greatness that can inspire us today, but it misleads if it suggests that these may occur in different conditions. “Antiquarian” history protects and preserves the past, giving us the security of belonging to a place and people, but a heritage can also be a substitute for new creation. Finally, “critical” history serves life by judging and condemning whatever has been, clearing the way for the new, and yet it commits injustice in doing this indiscriminately—and is dangerous for life, since we are, after all, the outcome of this past.

This assessment of historical knowledge has evident implications for a schooling focused on past cultures and languages. In writings of the 1870s, Nietzsche subjects the classical curriculum of the German *Gymnasium* to sharp criticism. The schools, he charges, are neglecting the true aims of education, while other influences are trying to use public education for their own ends. The state needs bureaucrats and soldiers, the business sector wants entrepreneurs, and “good society” demands acceptable appearances. More personal in tone is Nietzsche’s condemnation of current academic pedagogy. Instead of upholding the school’s true purpose, classical philology has become a self-absorbed, abstracted “science” that fails to address the primary task set for education by the ancient Greeks: the development of individual character. The complaint is hardly new (Seneca had said much the same about Roman education), but coming from a conspicuously successful product of the system, it carries conviction.

The “Free Spirit” and Beyond

Education is less often an explicit topic in Nietzsche’s later writing. Still, the problem of knowledge and life remains a preoccupation. At times, he sounds like an educational conservative, especially in discussing teaching. He wants to allow the educator a free hand in choosing a pedagogical strategy to suit each student, insists on discipline and hard work in learners, and even asserts that the good scholar is not much different from the good soldier. Yet these demands are means toward an end that is not at all conservative: the formation of what Nietzsche terms the “sovereign individual.” The aim is autonomy, implying making one’s own laws or, as he would say, inventing one’s own values. The education that he recommends provides the preconditions for this achievement: The crucial next step is up to the individual.

In his most popular work, *Thus Spoke Zarathustra*, Nietzsche illustrates his intention with a parable. He describes three “metamorphoses of the spirit.” First it becomes a camel, willing to obey commands and to bear heavy burdens patiently. In the desert, however, the spirit rebels against authority and turns into a lion, who says “No” to every “Thou shalt” and replaces it with “I will.”

The second of these stages is explored in the work of Nietzsche’s middle period, starting with *Human, All Too Human*, through his concept of the “free spirit.” On occasions, he seems to deny the value of teachers and schools altogether, declaring that “as

a thinker, one should speak only of self-education” (Nietzsche, 1878/1986, p. 374). But this is not the whole story. The free spirit has no further need for a master, but it may still learn from others—that is, from friends and comrades, on a basis of equality and shared purpose. Nietzsche’s own life is a striking testimony to his belief in the importance of friendship for the thinker. His loyalty to Richard Wagner, his philosophical partnership with the Darwinian positivist Paul Rée, and his brief relationship with Freud’s future associate Lou Andreas-Salomé, all present a similar pattern of high hopes, followed by disappointment and disillusion. Yet he continued to learn even from these painful experiences and to find new directions.

Beyond this struggle for freedom is the third “metamorphosis of the spirit”: a transformation into a newborn child, who represents a fresh beginning, unburdened by what has been. Playful and innocent, the child is “beyond good and evil,” and so is capable of finding new values. Yet the image remains a promise rather than a reality, the vision of an ideal that is more readily seen than grasped in our present situation. For Nietzsche, this last transition remains an unsolved problem.

The fictional protagonist of *Thus Spoke Zarathustra* is such a conflicted “free spirit.” Written in a quasi-Biblical style, this collection of discourses also has an overall narrative direction. Zarathustra assumes his calling as teacher and prophet of a higher form of life only gradually and reluctantly. His progressive self-education meets with frustrations, crises, and setbacks, and yet he manages to “stumble upward,” even if the work’s overall ending is open to several readings.

The Late Writings

In the final phase of his writing, Nietzsche (1954) returns to the aims of education, now pared down to essentials, and lists “the three tasks for which educators are required. One must learn to *see*, one must learn to *think*, one must learn to *speak* and *write*” (p. 511). None of these simple phrases, however, means quite what one might suppose. As he goes on to explain, “Learning to see” means a kind of self-reserve, an ability to postpone any response to the demands of one’s environment. “Learning to think” involves not compliance with rules of logic but a playful ability to “dance with concepts.” Nietzsche does not spell out what he means by “learning to write,” but his own work serves as an exemplar. Its

hallmarks are close attention to the match between content and style, and access to a range of modes of communication, from the grand scale to the aphoristic genre, designed not to deliver its full meaning immediately but to require the contribution of the reader's own thinking.

In these writings, especially the notes and working drafts that editors brought out as a posthumous book titled *The Will To Power* (1968), Nietzsche's hopes for cultural and educational reform are replaced by a diagnosis of European culture as facing the onset of nihilism, a loss of meaning and value brought about by the collapse of the beliefs that have guided the West for 2,000 years. Modern society's abandonment of religious faith is only the start. Those who think that they can manage their lives with a secularized morality are told to reconsider. It is to them, not to Christian believers, that the message of the "death of God" is addressed. Its point is that along with belief in God and a future life, objective standards of good and evil, and even of truth and falsity, have been fatally undermined by the same will to truth that gave rise to modern science, but now it "draws its ultimate consequences."

This is Nietzsche's claim to be "dynamite." In prophetic moods, he predicts a coming century in which civilization will confront its dark side in an age of war and social chaos. What can education achieve in the face of this predicament? At most, it can prepare the way for what might come after: a discovery of new meaning in life and value in the world. Only the individual can do this, and only a philosophical education will make it possible. In his works, Nietzsche emerges as this kind of educator. Few thinkers have communicated more directly with their readers, and it is not surprising that many think of him as a mentor or even a friend. His continual exploration of differing perspectives is a kind of objectivity—the only possible kind, as he thinks. He invites us to share in his task of continual "self-overcoming," or at least to find parallels in our own lives. Finally, he leaves us with a cryptic directive for the goal of this ultimate form of education: We must "become what we are."

Robin Small

See also Autonomy

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NODDINGS, NEL

With an educational career spanning more than six decades, Nel Noddings (1929–) has achieved prominence as a leading feminine ethicist and philosopher of education. As the author and editor of 19 books

and more than 200 articles, Noddings has made contributions to the academic areas of ethics, philosophy of education, educational policy, mathematics education, religious education, social policy, and peace education. Her work has been translated into 11 different languages. Noddings has been honored as a model teacher, and for her scholarship, she has received six honorary doctorates and was elected President of the National Academy of Education and of the Philosophy of Education Society in the United States. Her educational experience includes middle and high school teaching, school administration, university teaching, and academic administration. As the mother of 10 children, her work integrates her personal experience of parenting with her professional work as a teacher and educational administrator; this integration of the professional and the personal has yielded distinctive, alternative perspectives on ethical relationships, the aims of education, and the role of caring in educational and social policy.

This entry focuses on her seminal and heavily cited book *Caring: A Feminine Approach to Ethics and Moral Education* (first published in 1984). (It needs to be noted at the outset that the term *feminine* that appears in the title of this work does not imply, for Noddings, that caring as an attribute is restricted to females—although it might be a more common aspect of women’s experience.) Noddings develops “an ethic of care” grounded in an ontology of relatedness and spells out what it means to treat people morally. In Noddings’s view, it is caring relationships that underlie moral goodness. Unlike most ethical theories, hers is not grounded on rational judgment and moral justification—rather, it emphasizes cultivating a moral sensibility, human responsiveness to others, and an understanding of the unique, context-dependent situations in which we must act. But in seeking to avoid situational relativism, she posits that the need and desire to be cared for is a universal feature of human experience.

Noddings has also written extensively on the implications of her theory of care for moral education and educational policy. This entry discusses her work in this area and concludes with a look at some of the objections that have been raised to her ethical theory and her concept of needs-based public policy.

Caring

Noddings does not view caring primarily as an attribute of a “caring person”—that is, as a moral virtue

associated with an independent agent. Rather, she conceives of it as *an attribute of a reciprocal relationship between two people*, the “one-caring,” and the one “cared-for.” Unless the cared-for recognizes the caring, we do not have a caring relation. Thus, for Noddings (2002a), the logic of a caring relationship has three essential components:

1. A cares for B.
2. A performs some appropriate act in light of this caring.
3. B recognizes that A cares for B. (p. 19)

It is noteworthy, too, that Noddings does not reduce caring to feelings of empathy; the kind of “feeling with” that the one cared-for experiences is called by Noddings “*engrossment*.” In this non-judgmental, open, receptive attention, the one-caring receives the other into herself and becomes “a duality” with the other. “Receptivity” for Noddings is not a mystical notion but a state of consciousness. In this state, the one-caring is fully present to the other, but it does not project herself into the other’s shoes and ask, “How would I feel if I were in the other person’s situation?” Noddings (1984/2003) describes this receptive attention as having “been invaded by the other” (p. 31). She finds Simone Weil’s (1977) description of “receptive attention” compelling: “The soul empties itself of all of its contents in order to receive into itself the being it is looking at” (p. 51). Noddings (1992/2005) continues, “When I care, I really hear, see, or feel what the other tries to convey” (p. 16). This engrossment may last only a few moments, and it may not be repeated, but it must be full and complete.

The other essential ingredient the one-caring must experience is called “motivational displacement.” It represents a motivational shift in which the one-caring’s “motive energy flows towards the other” (Noddings, 2002b, p. 33). The one-caring allows her motive energy to be shared, to be put at the service of the other. This sharing of her energy may make her more vulnerable but that vulnerability is something she is willing to risk. Noddings (2002b) gives an example of motivational displacement from her own field of teaching—mathematics.

Consider a typical example. Ms. A, a math teacher, stands beside student B as he struggles to solve an equation. Ms. A can almost feel the pencil in her own hand. She anticipates what B will write, and she

pushes mentally toward the next step, making marks and erasures mentally. Her moves are directed by his. She may intervene occasionally but only to keep his plan alive; not to substitute her own. She introduces her own plan of attack only if his own plan fails entirely and he asks, "What should I do?" (p. 17)

Noddings indicates that not all encounters are likely to be fully caring encounters. Sometimes the one-caring may be distracted or preoccupied and incapable of giving the cared-for the appropriate receptive attention needed. Sometimes the one-caring may resist the move to motivational displacement by thinking "I don't have time for this," "Why me?," or "I can't handle this" (Noddings, 2002b, p. 18). Moreover, sometimes the cared-for is not capable of acknowledging that the caring has been received. If there is failure on either the part of the one-caring—to give the cared-for the appropriate receptive attention—or on the part of the cared-for—failure to acknowledge that the caring has been received—then a caring encounter will not have been consummated. This essential mutuality in caring leads us to a discussion of Noddings's view of "reciprocity" in caring.

Reciprocity in Caring

In contrast to other scholars writing about caring, such as Milton Mayeroff (1970) and Michael Slote (2000), Noddings requires some level of *reciprocity* in caring encounters and caring relationships. The cared-for must contribute something essential to the encounter for it to be a caring one. In her view, the cared-for responds in a way that shows that A's efforts at caring have been received. This receiving and acknowledgment from the one cared-for may be minimal, as manifested in a baby's smile or an elder person's knowing glance, but it must be present for a caring encounter or relationship to be established. For Noddings, caring relations evolve through a set of caring encounters, but these relations focus on what the effects of the one-caring are on the cared-for, not merely on the intentions of the one-caring. Caring over time, Noddings writes, need not be—in fact, never is—an unbroken series of caring encounters, but it must be marked by a basic constancy. The adult must convey a message to the child: "I am here for you." Of course, Noddings notes that teachers serve, just as parents do, as models of caring, and their message of "I am here for you"

indicates a willingness to listen, to help, to defend, and to guide. It remains the foundation for the most vital human relationships. Moreover, it is this reciprocity that Noddings insists makes her model of caring not a virtues ethic but a relational ethic, for she refuses to locate caring merely in the individual moral agent, regardless of how much caring she may display: *Reciprocity is always required.*

Natural Versus Ethical Caring

Noddings suggests that morality is rooted in feelings that are universal in our species. The first of these is what she calls the sentiment of "natural caring." Its paradigm case is a mother's love for her child. The mother's desire to respond to her child's need is not coerced but natural; it emerges naturally because she is concerned about her child's well-being. She *wants* to care; she feels no *obligation* to do so. Noddings (2002a) describes natural caring as follows:

A sense that "I must" do something arises when others address us. This "I must" is induced in direct encounter, in preparation for response. Sometimes we, as carers, attend and respond because we want to; we love the ones who address us or have sufficient positive regard for them, or the request is so consonant with ordinary life that no inner conflict occurs. In similar fashion, the recipients of such care may respond in a way that shows us that our caring has been received. When this happens, we say that the relation, episode, or encounter is one of natural caring. The "I must" expresses a desire or inclination—not a recognition of duty. (p. 13)

Ethical caring, in contrast, is based on a different sentiment, one occurring in response to recalling the prior sentiment of natural caring. We remember moments in our past when we displayed caring and when we were cared for. In remembering these moments, we experience an "I must" feeling that flows in response to the plight of the other whom we are not instinctively inclined to care for. Noddings (2002a) describes ethical caring as follows:

At other times, the initial "I must" is met by internal resistance. Simultaneously, we recognize the other's need and we resist; for some reason—the other's unpleasantness, our own fatigue, the magnitude of the need—we do not want to respond as carers. In such instances, we have to draw on *ethical caring*; we have to ask ourselves how we would behave if

this other were pleasanter or were someone we loved, if we were not tired, if the need were not so great. In doing this, we draw upon an ethical idea—a set of memories of caring and being cared for that we regard as manifestations of our best selves and relations. We summon what we need to maintain the original “I must.” (p. 13)

Noddings emphasizes that ethical caring is not superior to natural caring. Neither requires any form of religious or transcendental belief in a supernatural being. Rather, our capacity for natural caring is derived from our having been immersed in relations of care since birth. Moreover, when ethical caring is required, we can invoke an ethical ideal based on our memories of caring and being cared for. Thus, Noddings’s (2002a) ethic of care can be viewed as a form of “pragmatic naturalism,” one that requires no “gods, or eternal verities, or an essential human nature, or postulated structures of human consciousness” (p. 15).

Caring for Versus Caring About

In *Caring* (1984/2003), Noddings distinguishes “caring for” others in face-to-face relationships from “caring about” others who might be far removed from one’s daily circumstances. She describes “caring about” as follows:

I have brushed aside “caring about,” and, I believe, properly so. It is too easy. I can “care about” the starving children of Cambodia, send five dollars to hunger relief, and feel somewhat satisfied. I do not even know if my money went for food, or guns, or a new Cadillac for some politician. This is a poor second cousin to caring. “Caring about” always involves a certain benign neglect. One is attentive just so far. One assents with just so much enthusiasm. One acknowledges. One affirms. One contributes five dollars and goes on to other things. (p. 112)

Later, in response to critics suggesting that she has downplayed the importance of “caring about,” Noddings acknowledges that it deserves more attention than she originally gave it; furthermore, it may provide the link between caring and justice. She writes that caring about others may be viewed as “instrumental in establishing the conditions under which caring-for can flourish” (Noddings, 2002b, p. 23). Nevertheless, she continues to have doubts about its role because of its inherent flaws: It can be

too easy, it can become self-righteous and politically correct, it can encourage our becoming too dependent on abstractions and schemes that may seem consistent at the theoretical level but not entirely workable in practice, and finally, she thinks, others may easily elevate it above caring for, thus distorting what might be called the natural order of caring.

Caring and Moral Education

It is important to note that Noddings views moral education as the primary aim of education, thus, her educating for caring remains fundamental to this endeavor. Noddings provides a critique of “character education”; she suggests that her own theory of caring shares some characteristics with the intellectual tradition of virtues ethics but differs from it—because, as noted above, *caring must be viewed as a relation* not as a virtue lodged in one’s character. Moreover, other differences can be noted. Care theorists, rather than attempting to inculcate virtues directly, focus on establishing those conditions that are likely to bring forth the best in students—that is, those conditions “that will make being good both possible and desirable” (Noddings, 2002a, p. 2). Care theorists also are unlikely to identify several specific virtues absolutely and without regard to context. Moreover, they will be likely to place more emphasis on the social virtues because they view an individual’s moral and social development as being dependent on how we are treated by others. “How good I can be depends,” according to Noddings (2002a), “in substantial part, on how you treat me” (p. 2). Virtue theorists will use stories favoring heroes and inspirational accounts; in contrast, care theorists favor stories that make ethical decisions problematic and arouse sympathetic reactions in their readers.

Noddings argues that there are four essential components of moral education. These will be discussed in turn.

1. *Modeling*: We present the best possible model of caring when we care unselfconsciously. However, when we do reflect on our caring, we must focus on the relation between ourselves and the cared-for. Has our response been adequate? Could we have expressed ourselves better? Has our action helped or hindered the cared-for? We should reflect both on how competent we are as ones-caring and how we are functioning as role models.

2. *Dialogue*: This is central to caring relations because it always implies the question, “What are

you going through?” Dialogue allows self-disclosure in a safe setting and makes it possible for the one-caring to respond appropriately for the cared-for. In dialogue, we attend nonselectively to the other and allow ourselves to be engrossed in the other. In dialogue, both participants take turns as carers and cared-for, as they remain aware of each other. Dialogue also serves multiple purposes in caring encounters and relations: (a) it provides information about the participants, (b) it supports the relationship, (c) it brings about further thought and reflection, and (d) it develops communicative competence in those involved in the dialogue. Moreover, dialogue invites the participants to deepen their understanding both of themselves and the other.

3. *Practice*: This includes participating in caregiving activities. These can include cooperative activities in school where we work with other students. Practice can also include community service, provided it is offered as an opportunity to practice caring; finally, practice can include other non-school-related activities such as attending to the needs of guests, caring for smaller children, and performing housekeeping chores. Boys, argues Noddings, need more of the kinds of caregiving opportunities that girls regularly get outside of school.

4. *Confirmation*: When we “confirm” others, we try to bring out the best in them. If someone engages in an uncaring or unethical act (based on our own ethical perspective), to confirm the other is to attribute the best possible motive to the other from a realistic standpoint. Attributing the best possible motive requires that we understand the situations we confront and the people we are interacting with.

For Noddings (2002a), if we seek to help others develop morally, we must engage in an ethic of care. To do so requires that we seek to establish and maintain caring relations, meeting the needs of others and responding to them appropriately (p. 20).

Caring and Educational Reform

In offering a radical critique of the aims, methods, and curriculum of traditional schools, Noddings provides us with an alternative vision of school reform. At the heart of this vision the central aim of education remains the production of competent, caring, loving, and lovable people. Noddings invites us to reflect on the following thought experiment: What might schooling be like if we considered what we would want as wise parents of a large,

heterogeneous family? In answering this question, Noddings thoroughly rejects any approach to the content, methods, or aims of education based on either of these two ideas: (a) uniformity of content in the curriculum or methods of instruction and (b) denying students meaningful choices that reflect their expressed needs, interests, and forms of intelligence. For Noddings, the traditional view of liberal education represents a false ideal for universal education. Why? Because it draws on a very narrow set of human capacities and fails to acknowledge the multiple forms of intelligence children display. Similarly, she dismisses our obsession with standardized testing outcomes, especially those emphasized in the No Child Left Behind Act in the United States. She does not think that education can be improved “merely by designing a better curriculum, finding and implementing a better form of instruction, or instituting a better form of classroom management” (Noddings, 1992/2005, p. 173). Instead, formal education needs to be fundamentally reconceived; it must abandon its narrow focus on a one-size-fits-all approach to disciplinary studies and embrace the broader aim of developing human beings able to care for themselves and for others, for living creatures and the environment, and even for the world of ideas. Noddings provides a detailed account of schools organized around themes of caring, but she avoids giving recipes or prescribing solutions. Rather she asks us to consider alternative educational possibilities. Noddings wants teachers to create opportunities for students to develop their own talents, cultivate their own interests, and pursue their own passions.

One central theme Noddings (1992/2005) emphasizes is continuity:

- a. *Continuity of purpose*: Schools should be places where students are cared for and will be encouraged to care deeply themselves.
- b. *Continuity of place*: Students should stay in school buildings for longer than two or three years.
- c. *Continuity of people*: Students might remain with one teacher for three or more years; placement would be made by mutual consent.
- d. *Continuity in curriculum*: Curricular content should be connected to students’ personal experience—past and future (pp. 64–72).

Noddings acknowledges that her vision for schooling might require drastic changes in our present

approach to curriculum, teacher preparation, and methods of evaluation. However, she unabashedly articulates her radical views in striking detail; moreover, in her critique of contemporary schooling, she repeatedly expresses her aversion to the ideology of control currently undergirding contemporary schooling in the United States.

Noddings believes that students, in being encouraged to develop deepening personal awareness, must be able to discuss important existential questions freely, including spiritual questions. Finally, she believes her emphasis on caring in different domains should not be viewed as “soft or mushy,” since each domain demands that students and teachers strive continuously for competence in caring so that “the recipient of our care—person, animal, object, or idea—is enhanced” (Noddings, 1992/2005, p. 175).

Criticism of Noddings’s Work on Caring

In spite of its widespread influence, Noddings’s views of caring have not gone without serious criticism. Some Kantians suggest that she has not been fair to the great philosopher; another important line of criticism, already mentioned, has been that her view has overemphasized interpersonal caring and de-emphasized a wide range of other moral issues related both to social policy and social justice. Noddings has acknowledged these concerns in her later work, especially in *Starting at Home: Caring and Social Policy* and *The Maternal Factor*. In so doing, she has developed what she describes as a “needs-based” approach to social policy. In particular, Noddings has acknowledged that “caring about” was discussed insufficiently in her seminal 1984 work;

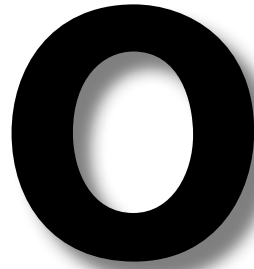
however, she believes that “caring about” remains a motivational foundation for justice, albeit not the only starting point for it. In recent years, Noddings has continued to expand on her core views of caring, writing extensively about topics such as happiness, women and evil, feminism, and peace education.

Michael S. Katz

See also Buber, Martin; Feminist Ethics; Kant, Immanuel; MacIntyre, Alasdair; Moral Education; Virtue Ethics

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OAKESHOTT, MICHAEL

Michael Oakeshott (1901–1990) was a British philosopher, political theorist, and historian of ideas. He published many reviews, an influential edition of Thomas Hobbes’s *Leviathan*, and two book-length treatises, but he is perhaps best known for his lucid, urbane essays on culture and conduct, history and politics, and experience and education. Out of step with the philosophical, political, and educational currents of his day, Oakeshott founded no school. Nonetheless, his eloquent defenses of practical judgment and liberal learning in a technocratic and instrumental age make him one of the most important thinkers of the 20th century. Before the discussion turns to education, the major themes of his work need to be outlined.

Life and Work

Oakeshott’s passion for ideas seems to have been sparked early. As a boy, he read Michel de Montaigne with his father. As a student at the progressive, coeducational St. George’s School, he is thought to have heard impromptu lectures on Immanuel Kant and Georg Wilhelm Friedrich Hegel from the school’s eccentric headmaster, Cecil Grant. Later, he attended Cambridge, where he read history and heard the idealist J. M. E. McTaggart’s lectures on “Introduction to Philosophy.” Oakeshott then spent some time studying theology in Europe and teaching English at a grammar school before returning to Cambridge to earn his doctorate and teach history of

political thought. After his time at Cambridge—punctuated by his service as a World War II squadron commander—he assumed professorships first at Oxford and then at the London School of Economics, where he taught until his retirement in 1968.

Oakeshott broke onto the philosophical scene with *Experience and Its Modes* (1933/1985), a study (in the Anglo-Hegelian style of F. H. Bradley and Bernard Bosanquet) of the refraction of full experience through the lenses of history, science, and practice. Throughout the 1940s, 1950s, and 1960s, Oakeshott showed himself to be a master of the essay form—provisional yet authoritative reflections, many of which would later be collected in important volumes such as *Rationalism in Politics* (1962), *Hobbes on Civil Association* (1975), *On History* (1983), and *The Voice of Liberal Learning* (1989). Late in life, he ventured his second systematic book-length study, *On Human Conduct* (1933/1975), which seeks to articulate the tacit values of modern civic life, the norms embedded in the practices through which we collectively maintain spaces where individuality might flourish.

Oakeshott as Theorist

Oakeshott is notoriously difficult to categorize. He has been read as a liberal theorist and as an antiliberal theorist. His dissatisfaction with the rationalism and reformism characteristic of liberal modernity has led some to view Oakeshott as a belated aristocrat; his antifoundationalist epistemology and anti-essentialist philosophical anthropology have led others to view him as a postmodern thinker. Politically, he has

been claimed by Tories (Margaret Thatcher offered him a knighthood, which he refused), progressives (Richard Rorty), and even radicals (Chantal Mouffe).

Though Oakeshott is often read as a Burkean traditionalist, he is better situated in the diverse group of 20th century thinkers that includes Hannah Arendt, John Dewey, Hans-Georg Gadamer, and Alasdair MacIntyre. Drawing inspiration from Hegel and Aristotle, these thinkers sought alternatives to major modern antinomies between freedom and solidarity, and reason and tradition. Thus, while Oakeshott opposed atomistic liberalism, he felt no nostalgia for *universitas*, his term for a community united by a shared purpose. What inspires Oakeshott is another model of affiliation. Thrown together by fate, the members of a *societas* are bound to one another only by the sense of civility and loyalty that develops through the “conversation” emanating from and bridging their diverse projects.

Criticisms of Rationalism, Technicism, and Iconoclasm

Oakeshott also rejected the dichotomy between methodical reason and blind tradition. No irrationalist, Oakeshott did have grave misgivings about what he called “rationalism,” which is marked by instrumentalism (the reduction of human purposiveness to problem solving), technicism (the reduction of practical judgment to technical knowledge), and iconoclasm (the desire to replace local, evolving institutions with new ones, built from scratch according to general, rational principles).

Oakeshott’s entire oeuvre can be read as an attempt to counter just these three modern prejudices. On his view, the rationalist misunderstands institutions as mere tools, failing to see them as embodying the sort of noninstrumental values that make life worth living. Even if we accepted this instrumental reduction of social practices, iconoclasm would be dangerous. For Oakeshott, we are better off gradually amending the reasonable (if also messy and incomplete) ideas found in existing institutions than we are generating grand ideologies to enact wholesale reform.

Oakeshott also challenged the key prejudices of technicism, which are (a) if we know something, we must have learned it deliberately and explicitly, so that (b) knowledge must be something codifiable, and (c) excellence in practice hinges on command of transmissible maxims and techniques. Oakeshott counters that our most valuable forms of knowledge

are rarely the product of explicit teaching. Success in practice depends largely on dispositions learned indirectly. The experienced practitioner is distinguished by his vision and judgment and by his ability to connect general rules with specific cases and to see how these rules must be interpreted, amended, and supplemented.

The rationalist, then, gets both theory and practice wrong, treating the former like a tool and the latter like applied theory. Oakeshott’s defense of tacit knowing and practical judgment, however, implies no anti-intellectual utilitarianism. For Oakeshott, the practical was but one “voice” in a larger conversation among rival “modes of imagining,” or ways of making sense of the world, such as history, philosophy, poetry, and science. In the quest for fuller experience, one hopes to acquire both fluency in one (or more) of the voices and the special type of “negative capability” (John Keats) that allows one to tolerate radical changes in perspective. Such epistemic humility helps us maintain the richness of the conversation by recognizing the unique contribution of each voice without relativizing them as if they spoke of incommensurably different worlds.

The conversation has grown dull in recent centuries, Oakeshott claims, because of the dominance of the voice of instrumentalism. It quickly collapses into a policy session or an audit in which all must see the world in terms of quantities, thinking in terms of problem solving, life in terms of satisfaction of wants, politics as the distribution of resources, and so on.

Oakeshott on Education

Nowhere is our galloping instrumentalism and technicism revealed more clearly than in education, and it is here that Oakeshott’s alternative vision is most clearly expressed. For Oakeshott, education is the process of realizing our full humanity through initiation into “the conversation of man,” the millennial struggle to understand the world and the human condition. To invite students into this conversation, liberal education must resist the urge to seem practical and up-to-date. Such donnish rhetoric leads casual readers to write off Oakeshott as another defender of “Great Books” or “cultural literacy.” In substance, though, Oakeshott’s theory of education has little to do with the standard conservative reaction to progressive education and identity politics. Oakeshott was deeply troubled by the formalism and developmentalism of the child-centered movement, believing that one cannot teach

“thinking skills” or “life skills” except through specific, substantive engagements with *this* historical event, *this* language, *this* text, and *this* work of art. He also found progressives pushing a shallow version of happiness and creativity, an empty version of freedom and voice. (It is worth noting that Dewey himself broke with the progressives for downplaying the curriculum in the name of the child.) Oakeshott was even more alarmed, however, by the other side of the 20th century educational coin: the equation of education with socialization. No one would mistake Oakeshott for a multiculturalist, or even a constructivist, but his theory of education is in fact driven by an ethical pluralism and a vision of learning as active, meaning-making.

To see why, we must retrace a key distinction Oakeshott makes between instrumental and liberal learning. According to Oakeshott, our first education is an education in desire. Creatures of our time and place, unconsciously influenced by our local clans, creeds, and clubs, our imaginations are shaped by deep assumptions about what one ought to do with oneself, about what to want and what to strive for. This first informal education creates the need for two further and rather different types of formal education. On the one hand, we need what Oakeshott calls instrumental education in which we learn how to get what we (happen to) want. On the other hand, we need liberal learning, which Oakeshott defines as a space in which we may wrestle with the question always begged by our instrumental education: What is worth wanting?

In the disciplines, in specific texts and works and inquiries, we find invitations into a wider conversation about the ends and means of human life. For Oakeshott, the human being is a strange sort of creature. We cannot help but tell stories about our nature, condition, and possibility, and then, we find ourselves living out these stories. The good news and the bad news for us is that we possess an inalienable freedom to choose how to negotiate conflicting narratives about ourselves and how to make sense of each narrative. (Here, Oakeshott comes close to a form of constructivism.) Through liberal learning, each of us has the chance to face up to this “ordeal of consciousness,” the challenge of individualized personhood. But we navigate this “adventure in self-understanding” with others, past and present, and under the guidance of a teacher.

These stories, and the ways they have been lived out, constitute our human culture, into which we are initiated through liberal learning. Culture for

Oakeshott, then, is not a collection of inert facts to be inherited, but it is a conversation to be joined. It is a field of contested meanings, and liberal learning requires each student to interpret and to take responsibility for those interpretations. Liberal learning is prized not as a source of uniform guidance but precisely for its dynamism, as a space to encounter the “tattered maps” left behind by fallible fellow travelers so that we may retrace partway their inspiring, incomplete journeys as we plot our own. The lesson of Oakeshott’s classroom is not which way of life is preferred but that there is no timeless ideal to use as a model to escape the ordeal of consciousness. (Here is where we see Oakeshott’s anti-essentialism and his ethical pluralism.)

This existential task is ultimately the learner’s responsibility, but the teacher plays a critical role. Though liberal learning speaks to a deep human need to interpret ourselves, it is a vulnerable enterprise that must be carefully guarded and deliberately sustained. Liberal learning requires a space buffered from the pressures of practicality, the banality of the everyday, and the myopia of the local and the contemporary. For subtler voices to be heard, the student needs some protection from the ceaseless distraction of trivial facts and momentary fads, hollow sentiments, and mindless clichés. This leads Oakeshott to say that schools and universities must be sheltered spaces. Here, one pictures a leafy campus where the wealthy maintain their privilege, and Oakeshott again seems open to the charge of reactionary nostalgia. However, Oakeshott’s concern is not literal seclusion but separation from the utilitarian demands of the here and now. The teacher must work to help students set aside the question “How does this help me get what I already want?” so that they may recognize deeper, nagging questions: Is this who I really am? What other resources exist that might help me better understand my condition and chart a path through life? In addition to clearing a space for this encounter, the teacher models the open-minded, substantive quest for self-understanding.

Thus, Oakeshott offers us not techniques for managing classrooms but language for defending them. He offers us not reading lists but an evocation of why reading might matter to young people trying to chart their course. He offers not pedagogical formulas and techniques but precisely a brief for the importance of the teacher’s character and judgment. He offers a vision of education as an engagement with its own integrity, uncompromised by those who would subsume it under the economic, political,

or therapeutic, and intimately woven into the very task of living a human life.

Chris Higgins and Katherine K. Jo

See also Adler, Mortimer, and the Paideia Program;
Bildung; Communitarianism; Dewey, John;
 Hermeneutics; Liberal Education: Overview; Liberalism;
 MacIntyre, Alasdair; Phronesis (Practical Reason)

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OPEN SCHOOLS

Since the mid-19th century, ideological tensions have existed in classroom teaching among European and U.S. school reformers who sought to have teachers direct and control student actions in covering a mandated curriculum and those who sought to organize classroom instruction to actively engage students' interest in subject matter and skills. Although the dominant mode of instruction was teacher directed in both Europe and the United States, educators on both sides of the Atlantic Ocean made repeated efforts to introduce and maintain student-centered forms of teaching and learning.

Johan Pestalozzi, the Swiss educator, and Friedrich Froebel, the German founder of the kindergarten, for example, influenced U.S. educators to focus on children's ideas, passions, and activities in organizing teaching concepts and learning skills. In the United States, Edward Sheldon at the Oswego State Normal and Training School (NY) in the 1860s invented "object teaching" using Pestalozzi's ideas; Francis Parker learned much from Sheldon and toured European schools before becoming superintendent of the Quincy schools (MA) and applying both home-grown and European ideas to these schools. Parker often said, "The child is the center of all education." He then moved to Chicago to train teachers where he came to know John Dewey who wrote extensively about the whole child, curriculum, and society. Dewey started the Lab School at the University of Chicago where his ideas about how children grew and learned were put into practice. Child-centered teaching and learning, then, has both European and American antecedents. Nonetheless, with all of these periodic efforts at getting teachers to practice child-centered approaches, teacher-directed instruction continued to govern elementary and secondary classroom practice. This entry discusses how the open schools movement started, its growth in the United States, how open classrooms operated, why they died out, and how the open schools movement fit into broader struggles over child-centered and teacher-centered teaching.

Open Classrooms Spread in the United States

Within that context, open classrooms or informal education—a British import—extended, elaborated, and modernized earlier versions of child-centered schooling when it swept across the United States in the late 1960s and early 1970s. The story begins in 1967 when a parliamentary commission headed by Lady Bridget Plowden published a report, *Children and Their Primary Schools*, that promoted informal education in all British schools. American educators visited British classrooms where informal education was common. Many viewed informal education—or, as they came to call it, open classrooms—as an answer to both the U.S. educational system's critics and serious problems in U.S. society.

Beginning in the late 1950s, critics began blaming U.S. schools for national problems. From low academic standards, to the launch of the Soviet satellite *Sputnik*, to urban decay, to failure to get Johnny to read properly, detractors said poor schooling harmed the nation. Schools graduated youth unprepared to

go to college and become engineers and scientists to compete with the Soviet Union; schools offered unequal education to segregated students; schools taught disadvantaged children poorly; and schools created conformity-embracing graduates who were unimaginative and seldom questioned authority. Critics thought that schools could help the nation win the Cold War, make equal opportunity a living reality in classrooms, and increase creativity in a culture of conformity that throttled imagination.

For such an array of problems, champions of open classrooms believed the source of ills in U.S. public schools to be the traditional teacher-directed classroom that crushed students' attention, motivation to learn, and imagination. "Learning by doing" was the answer for those who believed that child-centered classrooms would solve not only inattention, alienation from subject matter, and lack of ingenuity but also larger social and political problems in the nation.

The open-classroom movement occurred as major cultural changes swept across the United States. The late 1960s and early 1970s saw the rise of a youth-oriented counterculture and various political and social movements—the civil rights movement, antiwar protests, and feminist and environmental activism—that challenged traditional authorities, including the best way to organize classrooms and schools and how teachers should teach students.

In both Britain and the United States, open classrooms sought no teacher-directed lessons, no standardized tests, and no detailed curriculum. While open classrooms varied a great deal from place to place, the best of them had rooms where children came in contact with things, books, and one another at "interest centers" and learned at their own pace with the help of the teacher. Teachers structured the classroom and activities for individual students and small work groups. They helped students negotiate each of the reading, math, science, art, and other interest centers on the principle that children learn best when they are interested and see the importance of what they are doing.

Here is a snapshot of a New York City third-grade open classroom in 1971:

Carelessly draped over the seat, arm, and back of a big old easy chair are three children, each reading to himself. Several other children nearby sprawl comfortably on a covered mattress on the floor, rehearsing a song they have written and copied into a song folio.

One grouping of tables is a science area with . . . magnets, mirrors, a prism, magnifying glasses, a microscope. . . . Several other tables placed together and surrounded by chairs hold a great variety of math materials such as "geo blocks," combination locks, and Cuisenaire rods, rulers, and graph paper. . . . The teacher sits down at a small round table for a few minutes with two boys, and they work together on vocabulary with word cards. . . . Children move in and out of the classroom constantly. (Schneir & Schneir, 1971, pp. 30–31)

As the idea of open classrooms spread, thousands of elementary school classrooms became homelike settings where young children moved from one learning center for math to another for art. Additional learning centers engaged them in science, reading, and writing lessons. In some schools, teacher teams worked with multiage groups of students and created elementary schools where children were no longer assigned to grade levels. Some school districts started alternative open education programs at the high school level and gave teachers discretion to create new academic courses where students directed their own learning and worked in the community. At both the elementary and secondary levels, open classrooms meant that teachers were guiding students rather than directing minute-by-minute activities.

By the early 1970s, the phrase *open classrooms* dominated educators' vocabularies. Even though parents and practitioners found it hard to define exactly what an open classroom was, many school boards adopted the programs. Few superintendents or principals could risk saying aloud that they had neither heard of the innovation nor found it desirable without risking sneers or snickers.

Goodbye to Open Classrooms

Just a few years later, however, conditions changed. By the mid-1970s, with the economy slowing down and the Vietnam War splitting the nation, critics again jumped on public schools. These crises gave rise anew to the belief that somehow schools were both the problem and solution to national ills. That belief hardened as Scholastic Aptitude Test (SAT) scores fell, evidence of the failure in school desegregation in closing achievement gaps grew, and as reports piled up of growing violence in urban schools. This time reformers called not for open classrooms and child-centered education but for a

return to the basics, again mirroring general social trends—namely, the conservative backlash against the cultural and political changes of the 1960s and early 1970s.

Traditional schools as alternatives sprouted in suburbs and cities. States tried to raise academic standards by developing minimum competency tests that high school students had to pass in order to receive a diploma. By 1975, media interest and academic attention on open classrooms had shrunk. By the early 1980s, open classrooms had become a forgotten reform.

But were open classrooms just another fad? Perhaps, they were in the sense that, like TV quiz shows and eight-track tapes, they had parachuted onto the scene and then disappeared with hardly a trace. Considering them merely a fad, however, would miss the deeper meaning of open classrooms as yet another skirmish in the ideological wars that have split educators and the public since the first tax-supported schools opened their doors in the early 1800s.

Ideological Struggles Over Child-Centered and Teacher-Centered Teaching

For at least two centuries, competing traditions of teaching reading, math, citizenship, and morality have fired policy debates and occasionally touched classroom practices. In teacher-centered instruction, knowledge is often (but not always) “presented” to a learner (via lectures, textbooks, and testing) who is—pick your metaphor—a “blank slate” or a “vessel to fill.” In student-centered instruction, by contrast, knowledge is often (but not always) “discovered” by the learner (via individual and small-group work, projects blending different subjects and skills, and inquiry and questioning). Young learners are described as “rich clay in the hands of an artist.” Rival traditions they were, but in the nation’s classrooms for well over a century, varied versions of teacher-centered instruction dominated daily practice.

Nonetheless, child-centered reformers tried again and again to alter prevailing classroom practices. Pedagogical progressives, for example, mounted major efforts to alter teacher-centered instruction at the beginning of the 20th century. They were successful in changing the language and curriculum but little reform of teaching practices occurred. Then in the late 1960s, enthusiasts for open classrooms restarted child-centered learning. As before,

a wide gap between talk and practice remained. Among educators, mainstream classroom practices remained largely teacher centered, even if substantial numbers of teachers—trained by progressive faculty members—grasped pieces of the student-centered tradition and created hybrid practices.

The present moment in American education, with its emphasis on standards-based curricula and test-driven accountability, provides a safe haven for those who prize teacher-centered lessons. Nevertheless, many teachers, particularly in elementary schools, continue to promote active student involvement, cross-disciplinary projects completed by small groups, and similar activities. And full-fledged open classrooms still exist in scattered locations across the country from the Open Classroom School in Salt Lake City to the Irwin Avenue Open Elementary in Charlotte, North Carolina. Many teachers and principals still embrace the principles of open classrooms, but they keep a low profile to avoid attracting attention at a time when test-driven accountability dominates teaching practices.

Why this long-running ideological war over the best ways to teach reading, math, science, social studies, and science? Ideological warfare occurs because different models of how to rear infants, toddlers, and young children exist and have competed with one another for centuries. From John Locke, to Jean-Jacques Rousseau, to Herbert Spencer, to Sigmund Freud, to, yes, John Dewey—each saw differences in how children grow and flourish, leading policymakers and practitioners to take different directions in determining how children and youth should be schooled, much less educated.

So while the open classroom has clearly disappeared from the vocabulary of educators, another variation is likely to reappear in the years ahead. Deep-seated progressive and traditional beliefs about rearing children, classroom teaching, and learning, and the values and knowledge that should be instilled in the next generation will continue to reappear because schools historically have been battlegrounds for solving national problems and working out differences in values. Since children differ in their motivations, interests, and backgrounds and learn at different speeds in different subjects, there will never be a victory for either traditional or child-centered teaching since no single best way for teachers to teach and for children to learn can fit all situations.

Larry Cuban

See also Dewey, John; Discovery Learning: Pros and Cons; Neill, A. S., and Summerhill; Progressive Education and Its Critics; Radical Constructivism: Ernst von Glasersfeld; Rousseau, Jean-Jacques

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P

PAIDEIA

According to Plato (ca. 428 to ca. 347 BCE), who gave the term philosophical depth, *paideia* meant the conversion of the human soul toward the divine source of light, which he identified with the Form of the Good. Through the reception of Platonism by the early church fathers, such as Augustine, *paideia* was introduced into the Christian theory of education, and exerted great influence on medieval, Renaissance, and modern theories of education. This entry examines the main features as expounded in the Analogy of the Cave and the discussion following it in Book 7 of the *Republic*.

In the Analogy of the Cave (also known as the Allegory, or Parable, of the Cave), human beings are depicted as prisoners living in an underground cavern. They are chained there from childhood, so that they are unable to move or see anything but the cave's end wall, and a fire burns behind them whose light projects various shadows onto the wall. As these prisoners are unable to turn around, the only reality they can perceive is the shadows. This initial situation is overcome when a prisoner is released, turns around, and walks toward the light. However, such a process would require gradual habituation. Otherwise, the sudden light from the fire would blind the prisoner, and he would gladly return to the initial situation. Only through the long process of habituation can the prisoner first see the fire and then leave the cave. Once outside the cave, to accustom his eyes to the brighter light, he must avoid looking at the sun and instead undergo several

steps, such as seeing shadows and reflections on the water. At the end of this process, the prisoner will be able to see the sun, the ultimate source of light and life. Now, if the prisoner were to return to the cave, he would be unable to immediately distinguish the shadows and would hence become a laughingstock there. People in the cave would consider any ascent out of the cave dangerous and would henceforth kill anyone who tried to set them free. Thus, the Analogy of the Cave ends with an allusion to the execution of Plato's teacher, Socrates.

The conception of *paideia* depicted by this analogy has several remarkable features. First, the goal of *paideia*, represented by the sun, is the Form of the Good that not only transcends the visible world but is also beyond other Forms. In Plato's choice of the Form of the Good, we can discern the influence of Socrates, whose interest was predominantly moral. However, unlike Socrates, Plato connects the search for goodness with his theory of Forms. Hannah Arendt's distinction between eternity and immortality in *The Human Condition* (1958) may help us understand the significance of this thought. The Form of the Good transcends time and space. In this sense, it is deathless and eternal, but eternity differs from the immortality that consists of durability in time. Before Plato, the Greeks strove after immortality by gaining fame that would last forever in the human world. For Plato, in contrast, the greatest achievement a human being can attain consists of coming into union with the ultimate, divine principle that exists beyond time and space. This idea of Plato had an enormous influence on Christianity.

Second, human nature has a strong affinity with the divine principle itself. Plato illustrates this with his image of human eyes that partake of light. Only because of this can they see the light of the sun. The strong affinity with the divine gives human beings a special status among creatures. In the *Phaedrus* (243E–257B), Plato expresses this thought more dramatically: Only those souls who, before birth, have beheld the gods are permitted to dwell in a human body. This is the original concept of human dignity, which has a long history in Western tradition.

Third, Plato conceptualizes paideia as a kind of conversion, turning from the tumults of worldly affairs to the divine principle. Because the soul partakes of the divine principle, this conversion can be considered as a process of returning to the more genuine self. In this respect, paideia differs sharply from ordinary, as well as sophistic, education, which, according to Plato, is restricted to the world of shadows—that is, the uncertain, contingent world of human affairs.

Fourth, the mathematical sciences and dialectics play a decisive role in paideia, a conversion that consists of different steps to enable the soul's gradual habituation to the ultimate principle. These steps consist of the mathematical sciences (i.e., arithmetic, plane geometry, solid geometry, astronomy, and harmonics) and dialectics. The mathematical sciences are selected not for their utility but primarily for their ontological status. They lead the mind from the world of the senses toward the realm of Platonic Forms. However, what finally leads to recognition of the ultimate principle, the Form of the Good, is dialectics. Dialectics surpasses other sciences through its critical character: Whereas other sciences build on premises assumed granted, dialectics never ceases examining even its own premises until it reaches the ultimate principle. Plato's theory of dialectics was inspired by the Socratic practice of dialogue, which involves the tireless search for truth by means of critical examination. The fundamental difference between the two is that Socratic dialogue is a free conversation ending in *aporia* but Platonic dialectics is part of curricula with the special function of attaining the ultimate principle.

Fifth, even though it is not mentioned in the Allegory of the Cave, Plato assigns an important role in educating children to poetry (in this case, always sung) and gymnastics. Plato inherited this practice from the Greek tradition. Yet significant differences are present. Plato subjugates poetry to strict moral exigency and strongly criticizes traditional materials

such as the Homeric epics and the Greek tragedies. Thus, Plato's work instigates a long tradition in which moral education greatly influenced education in the arts or, in other words, the arts became a preliminary part of it.

Despite the rise of modern philosophy in the 17th century, with its quest for epistemological certainty, paideia retained some influence among educational thinkers. For instance, the educational thought of Johann Comenius (1592–1670) was permeated by the metaphysics of light derived from the Analogy of the Cave. Jean-Jacques Rousseau (1712–1778) considered the *Republic* as the best treatise on public education. The human relationship to the divine remained a driving force of the work of Johann Pestalozzi (1746–1827) and Friedrich Froebel (1782–1852). However, there have also been criticisms of paideia. For example, Friedrich Nietzsche (*The Birth of Tragedy*, 1872) and Richard Rorty (*Philosophy and the Mirror of Nature*, 1981) argued that the metaphysical foundation of paideia had lost its validity. Other critics such as Karl Popper (*The Open Society and Its Enemies*, 1945) found paideia to be a precursor of totalitarian education. However, even though such criticisms may be partly justified, paideia can still challenge us to envisage education within a broader context that is not covered by contemporary theories of education.

Morimichi Kato

See also Augustine; *Bildung*; Dialogue; Nietzsche, Friedrich; Plato; Spectator Theory of Knowledge

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PATRIOTISM

Should children be taught to be patriotic? This is a question on which educational theorists are deeply divided. One bone of contention is whether or not it is permissible to give children a one-sided, rose-tinted, or distorted account of national history in order to cultivate attachment to the nation. Another is whether or not there are good reasons for loving one's country that can and should be presented to children. This entry considers arguments on both sides of these issues.

Just what is meant by "patriotism" is a contentious question in its own right. It is, however, generally accepted by educational theorists working in this area that patriotism is love of one's country. To be patriotic is to have a strong emotional attachment to a national community and the land on which it resides.

Suppose we are tempted by the thought that, where a democratic polity is coextensive with a national community, there are certain advantages to the polity in its members being sentimentally attached to the community. And suppose we also think that such sentimental attachment can be cultivated in children only by giving them a romanticized or mythologized picture of the nation. Does the valued political end justify the dubious pedagogical means? William Galston (1991) maintains that it does. He defends a form of civic education in which children are offered a "noble, moralizing history: a pantheon of heroes who confer legitimacy on central institutions and constitute worthy objects of emulation" (p. 101). But many educational theorists, such as David Archard (1999) and Harry Brighouse (2006), balk at Galston's proposal. Deliberate historical distortion or misrepresentation, they suggest, is too high a price to pay for a patriotic citizenry. It is legitimate to hope that children will come, of their own volition, to feel some sentimental attachment to the country in which they are raised; but it would be quite wrong to compromise the integrity and objectivity of education by using national mythology to inspire such attachment.

Perhaps, though, the parties on both sides of this dispute are too quick to assume that national sentiment can be fostered only by historical misrepresentation. If it is true that patriotism confers benefits on democratic polities, might we not encourage it in children by drawing attention to those benefits? To be sure, the belief that a sentiment is advantageous

is not, in itself, usually enough to generate that sentiment. But where there are already flickers of national affection, positive evaluation may be just what is needed to fan them into flames of love.

This sets the stage for the second of the contemporary debates about patriotic education: Are we in a position to provide children with good reasons to love their country? To answer this question in the affirmative, it would be necessary to show not only that patriotism is in some ways beneficial but also that the benefits it confers outweigh any costs it incurs.

The case for believing that there are advantages to patriotic attachment in democratic polities is strong. It is very plausible to hold that national sentiment acts as a spur to civic duty; it supplements the motivation of citizens to meet their political obligations. Because some of the obligations of citizenship are fairly onerous and in conflict with self-interest, there is an ever-present danger that citizens will be inadequately motivated to fulfill them. But if their political community is a national community they love, they are emotionally invested in its flourishing and consequently have a powerful supplementary motive to do what they ought. This benefit figures prominently in the arguments for patriotic education advanced by Eamonn Callan (1997, 2006) and John White (1996). As Callan (2006) puts it, "Love of country blurs the distinction between self-interest and the interests of compatriots in a way that makes action to support the creation of just institutions less costly" (p. 543).

But there is also a strong case for believing that patriotism has a significant cost for democratic polities. For much the same reasons as it spurs civic duty, national sentiment also tends to impede civic judgment. Citizens of democratic states are required to elect governments and hold them to account, to subject to scrutiny the domestic and foreign policies devised and pursued on their behalf, and to vote or protest against such policies as they find to be imprudent or unjust. They can meet these requirements only if they maintain some critical distance from their political representatives and institutions, if they can stand back far enough from the policies pursued by the state to be able to assess them rationally and objectively. In the context of nation-states, patriotism works against the preservation of critical distance because the actions of the state are simultaneously the actions of the nation, which patriots are predisposed to view in a favorable light. The investment of patriots in their country's flourishing inclines

them to lose sight of its flaws and failures in their eagerness to celebrate its merits and achievements. In the words of the poet William Blake, "Love to faults is always blind/Always is to joy inclin'd."

The crux of the matter is how we are to assess the relative weight of these considerations. Callan thinks that the motivational benefit significantly outweighs the cognitive cost. He suggests that the threat to civic judgment posed by the bias of the patriot is no greater than the threat posed by the apathy of the nonpatriot. Michael Hand (2011) argues, to the contrary, that the considerations are evenly weighted, so whether or not patriotic attachment is desirable must be seen as an open question. If that is right, presenting the advantages of national sentiment as if they amounted to good reasons for loving one's country would raise the same educational worries about distortion and misrepresentation as Galston's "noble, moralizing history."

Michael Hand

See also Citizenship and Civic Education; Democratic Theory of Education; Indoctrination

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PEACE EDUCATION

Peace education can be most simply thought of as educating students to create a more peaceful world. However, just as peace needs to be thought of as more than merely the absence of war, so too peace education needs to be thought of as being more than educating students to understand the importance of

avoiding war. Peace is related to the presence of justice, and thus a fuller definition of peace education is educating students to create a more just and harmonious world. Peace education also may be thought of as having an international dimension, that is, educating for peace and social justice between nation-states; as having a domestic dimension, that is, educating for peace and social justice within societies, groups, and families; and as having a personal dimension, that is, educating for peace and justice in our individual personal relationships and educating for inner peace. Moreover, many writers now also see peace education as encompassing our interrelationship with our natural environment. All these dimensions of peace education can be seen to be interrelated.

The External Authority for Peace Education

Peace education as a deliberate endeavor is a relatively recent phenomenon and has arisen substantially out of concerns about the destructiveness and suffering resulting from global warfare in recent modern history and a desire to avoid this in the future. As the United Nations was also established very much out of a desire to avoid global war in the future, it is not surprising that one should find statements about the importance of peace education, explicitly or implicitly, within numerous United Nations instruments and declarations. It is noteworthy that in recent years, there has been a trend toward including a cultural dimension in peace education, in that the United Nations now sees long-term peace education as encouraging a culture of peace, involving values, attitudes, and behaviors. The United Nations remains an important authority for a commitment to peace education, but this is very much an assumed authority or external rationale or legitimation (Page, 2004, 2008, 2010).

The Philosophical Rationale for Peace Education

Articulating an educational and philosophical rationale for peace education is much more complex. James Calleja has argued that a philosophical foundation for peace education may be found in deontological ethics; that is, we have a duty to seek peace and a duty to teach peace. Indeed, Immanuel Kant, in the Second Definitive Article in his influential 1795 essay *Zum ewigen Frieden* (On Perpetual Peace), argues that we have an "immediate duty" to establish a state of peace, and it follows that peace

education ought to be regarded as a duty. James Page (2004, 2008) has argued that a philosophical foundation for peace education also may be found in virtue ethics, consequentialist ethics, conservative political ethics, aesthetic ethics, and the ethic of care. What makes this issue more complex is that many writers, including John Dewey and Paulo Freire, seem to be advocating peace education without using this phrase. Indeed, one can see elements of a philosophy of peace education in the work of many philosophers and within the elements of world religions.

Indoctrination and Peace Education

One of the ways to think about a philosophy of peace education is to examine the possible objections to it. One of the most obvious challenges is that peace education may be perceived as a form of indoctrination and, as such, peace education cannot be considered a valid educational endeavor. Indeed, the charge of indoctrination is often raised at the public policy level against peace education. In the sense that peace education entails a value commitment to the creation of a peaceful and just society, then this charge might be considered valid—peace education is admittedly closely related to peace advocacy. However, indoctrination also implies a denial of the right of the individual, in this case the student, to form his or her own opinions on issues. A skillful and sensitive approach to peace education will include allowing the free expression of individual opinion by the student. Thus, process, as well as content, is crucial for peace education, and without an approach that recognizes the right of the student to form opinions and views, it is inevitable that any peace education will be seen as empty moralizing (or worse).

The Content of Peace Education

A second challenge for any philosophy of peace education is that the scope of the enterprise tends to become impossibly open-ended and undefined. The reason for this open-ended nature of peace education is that there are many dimensions to what constitutes a peaceful and just society; and it follows that peace education may be seen as encouraging tolerance and understanding, challenging racism and sexism, and encouraging a view of history that sees war as not inevitable, as well as encouraging healthy self-assertiveness and inner calm. One can even make a case that sexuality and relationships

education can be deemed part of peace education, in that sexually well-adjusted persons are arguably less aggressive. One resolution to this problem is to see peace education as implicit within the idea of education itself. All education is implicitly peace education in that there is a moral assumption within all education that students are being trained to operate in and contribute to a peaceful world.

Peace Education and Political Change

Another challenge for peace education is that it may be seen as an avoidance strategy by a world confronted with problems of peace and social justice. Saying that one seeks to educate a future generation to become more peaceful may be seen as avoiding the reality that policy answers need to be found now for the problems of war and social injustice. Committing to peace education can be seen as forever postponing the need to make policy decisions into the future. Moreover, it is natural that students may become resentful at being told that it is their responsibility to create a more peaceful world, when in reality, it is the social and political responsibility of every thinking person. The answer may lie in an integrated approach to education, in which all education, including peace education, is seen as part of a wider moral commitment to social change, toward working for a better world. In this sense, peace education is just one part of the wider imperative to individual and social action.

James S. Page

See also Education, Concept of; Gandhi, Mahatma; Indoctrination; Kant, Immanuel; Noddings, Nel; Values Education

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PEDAGOGICAL CONTENT KNOWLEDGE: LEE SHULMAN

Pedagogical content knowledge, or PCK, as it is often called, is a construct coined by Lee Shulman (1938–) in the mid-1980s to emphasize the importance of studying teacher professional knowledge, and teacher knowledge of subject matter in particular. Shulman defined PCK as a special kind of knowledge possessed by experienced teachers that constitutes a fusion of subject matter knowledge and the pedagogy appropriate for teaching particular topics. It includes knowledge about learners and how to represent subject matter knowledge in forms that make it comprehensible to students. According to Shulman, this knowledge distinguishes the subject matter pedagogue from the subject matter specialist; the former understands the subject in a different way from the latter. This entry first describes the intellectual context within which the construct was proposed and then describes different conceptualizations of the nature of PCK. The entry concludes with a description of recent developments in research on PCK.

Research on Teaching

During the decade prior to Shulman's introduction of the idea of PCK, educational researchers were working within what has been termed the process-product paradigm, a program led by N. L. Gage that aimed to identify relations between teacher behavior (process) and student learning or achievement (product). This was a vigorous and productive research program that led to the identification of teacher behaviors conducive to student learning and supported the conception of teaching as direct instruction. However, this research program was based on behaviorism, with its emphasis on

behavior rather than cognition and its search for general laws or principles. Thus, researchers working within this paradigm identified generic teacher behaviors or effective teaching practices across grade levels and different school subjects. Conversely, other educational researchers studying teaching, influenced by the advent of cognitive psychology, investigated teacher planning or teacher thinking rather than behavior as the important "process" and proposed models of teacher planning.

Shulman's potent contribution was in pointing out that even these more cognitively based programs of research on teaching were still viewing teaching as a generic activity. He called attention to what he called the missing paradigm or program in research on teaching—the study of teaching of particular subject matter. Influenced by his previous research on medical reasoning, which had revealed that doctors who were better diagnosticians possessed better domain-specific knowledge, he appreciated the need to study the subject matter specificity of teaching. The program of research that Shulman, in collaboration with his doctoral students, initiated at Stanford University in the early 1980s (which lasted to the early 1990s) on teacher knowledge and teacher assessment gave birth, at a very early stage, to the conception of PCK but continued to produce important findings about the relations between pedagogy and content.

Conceptions of PCK

In his first article in 1986, which introduced the concept of PCK, Shulman presented PCK as a subcategory of teacher content knowledge, the other two being subject matter content knowledge and curricular knowledge. He conceptualized PCK as a specific form of content knowledge that is relevant to its teaching. It is topic specific, that is, related to the most regularly taught topics in a teacher's subject specialization. Additionally, it includes forms of representation of the content, namely, the analogies, illustrations, examples, explanations, demonstrations, and activities that make the content comprehensible to students. Finally, it includes knowledge about student difficulties in learning the content of the topic and how to overcome these difficulties. These include students' alternative conceptions and misconceptions and how to engage with these prior ideas that students hold and that often hamper effective learning.

In a second article in 1987, Shulman identified PCK as one of seven categories that constitute the knowledge base of teachers, the other six categories being content knowledge, general pedagogic knowledge, curriculum knowledge, knowledge of learners, knowledge of educational contexts, and knowledge of educational ends, purposes, and values. In contrast to its conceptualization in the first article, PCK was conceptualized by Shulman as a separate category of teacher knowledge and not as a subcategory of content knowledge. However, he emphasized, once more, the topic specificity of PCK. Shulman did not elaborate on the interactions between these knowledge categories, the relations that might exist between them, or the type of knowledge in each category.

Other scholars introduced different conceptualizations of PCK. One trend was to include some of the categories of teacher knowledge originally proposed by Shulman as new components of PCK. In one early recategorization of teacher knowledge, knowledge and beliefs about purposes and knowledge of curriculum materials were considered components of PCK rather than separate knowledge categories as Shulman had proposed. Later, subject matter knowledge was proposed by some as a component of PCK. Another trend was to neglect the topic-specific nature of PCK and to treat it as a general and theoretical type of knowledge, which, to other researchers, seemed to contradict its perceived nature as the implicit, topic-specific, situated, idiosyncratic, and practical knowledge that teachers acquire mainly from experience. Still others considered it as subject specific rather than topic specific; that is, there is a pedagogy germane to teaching a subject (biology or science more generally) rather than a topic (e.g., photosynthesis).

These different trends reveal a lack of agreement among educational scholars about the definition of PCK and a diversity of conceptualizations about its nature. Yet the ambiguity associated with the construct did not prevent educational researchers and policymakers from enthusiastically accepting it.

Recent Development in the Study of PCK

The construct of PCK has been adopted, modified, or appropriated by numerous educationists since 1986. Shulman's 1986 article has been cited more than 7,400 times and his later article, about the same; and the number of articles published

annually on PCK is still growing. The research utilizing PCK has spread into a number of different subject areas, including science, mathematics, English, social studies, and physical education, with the highest number of researchers working in science and mathematics education.

Several publications report on the use of PCK as a basis for designing preservice teacher education programs and continuous professional development programs. Additionally, PCK has formed a framework for teacher assessment. For example, the National Board for Professional Teaching Standards in the United States certifies teachers by content area and the educational level at which the teacher works. Subject matter knowledge and knowledge of students, the two most important components of PCK, are clearly highlighted in this framework. Not only has the PCK construct caught the interest of educationists working at the school level, but also in higher education, the idea was well received because, as Shulman himself has pointed out, it shows that teaching, like research, is domain or discipline specific.

However, and despite the remarkable implications of the introduction of the PCK construct, questions still existed about the vagueness associated with the construct and about the research on PCK, questions that led to new developments in defining the nature of the construct and its validity. With respect to the nature of PCK and its representation, there is convergence, lately, among scholars working in different parts of the world about the need to portray specific cases of PCK in successful teaching. Hashweh proposed that we think of PCK as a set or repertoire of personal, content-specific pedagogical constructions that teachers develop as a result of repeated planning and teaching of, and reflection on the teaching of, the most regularly taught topics. These cases have components of both story-based and generalized event-based memories. Additionally, a specific pedagogical construction is a result of the interaction of the different knowledge categories in the teacher's mind (e.g., subject matter knowledge, aims and purposes, and knowledge of students) and has components that echo these general knowledge categories (e.g., content knowledge about forces and motion, the teacher's aims and purposes when teaching about forces and motion, and student-specific difficulties and alternative conceptions about forces and motion). The approach allows the identification, description, and representation of concrete

cases, or pedagogical constructions, related to the successful teaching of important topics within specific domains. It also permits us to identify important features necessary to the teaching of a certain topic that are common among the pedagogical constructions of different successful teachers. That is, the approach facilitates the portrayal of standard common professional practice in the teaching of specific topics while simultaneously legitimating the diversity in teaching approaches arising from individual teachers' philosophies and constraints of contexts. Finally, the approach provides outcomes that are directly related to the improvement of practice.

Van Driel and colleagues also remarked that few topic-specific examples of PCK existed in the literature, and they presented the topic-specific PCK for teaching chemical equilibrium in chemistry. Loughran and colleagues developed a method of identifying topic-specific PCK and portraying it in a way that is useful to teachers. For each science topic investigated, they developed a resource folio consisting of a content representation and what they termed as the pedagogical and professional experience repertoire. The content representation has elements similar to Shulman's categories, for example, knowledge of the main ideas of the content of a topic, teaching strategies, and knowledge about students. This representation is connected to a set of narratives describing a number of teachers' experiences in teaching the topic. This preserves the general event-based as well as the story-based aspects of pedagogical constructions pointed out by Hashweh.

Ball and her colleagues took a different route in investigating the nature of PCK. Paying closer attention to Shulman's categorization of PCK as a subcategory of teacher knowledge in his 1986 article, and less attention to the topic specificity of PCK, the group identified "pure" subject matter knowledge in mathematics that is exclusive to the teaching of school mathematics. Taking a third route, other researchers, including Baument and colleagues, investigated the effect of well-developed teacher PCK on student achievement. This endeavor is needed since the construct has tended to rely more on normative, rather than empirical, support. Additionally, it addresses the need to study teacher knowledge in relation to student learning outcomes; that is, it constitutes a return to the process-product paradigm in research on teaching, albeit

with a more sophisticated approach that takes into consideration teacher and student cognition, on the one hand, and the domain specificity of teaching, on the other. Though different from the previous conceptualization of PCK described earlier, these works continue the theoretical development, analytic clarification, and empirical testing of the construct that have taken place in the past decade. Judging by the voluminous research it has initiated, the refinement of the concept and the ensuing empirical outcomes, and its impact on educational policy and practice, the PCK construct continues to support progressive research programs in Imre Lakatos's sense of the term.

Maher Hashweh

See also Behaviorism; Epistemologies, Teacher and Student; Reflective Practice: Donald Schön; Social Constructionism; Teaching, Concept and Models of

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PERFECTIONISM

See Cavell, Stanley

PESTALOZZI, JOHANN H.

Johann Heinrich Pestalozzi (1746–1827) was a Swiss educator whose philosophy of education was based on the premise that learning occurs most effectively in an emotionally secure environment where knowledge is acquired by sensory perception. Influenced by Jean-Jacques Rousseau's beliefs regarding the inherent goodness of children and their need to develop freely, Pestalozzi introduced psychology into education and was the first to systematize the science of teaching. Though known predominantly for the object lesson, Pestalozzianism led to the transformational reform of elementary schools and ushered in the teacher licensure movement.

Following Rousseau's example of employing fictional narrative to convey a philosophical treatise, Pestalozzi wrote the novel *Leonard and Gertrude*, which emphasized the role of mothers in education and the original goodness of human nature. Although drawing heavily on Rousseauian principles, Pestalozzi's writings displayed three noteworthy differences. First, Pestalozzi did not support the glorification of nature as a utopia. He observed that nature can often be brutish, necessitating intentionality, especially in the moral instruction of children. Second, he was concerned about the education of the poor, while Rousseau did not see such a need. Third, he applied theory to practice, whereas Rousseau's ideology remained chiefly abstract. Unlike Rousseau, who relinquished his children to an orphanage, Pestalozzi educated his own son, implementing principles from *Émile*. Through application, Pestalozzi tempered Rousseau's ideas while refining his own practice.

As he gained recognition for his writings, Pestalozzi also became identified as sympathizing with the French Revolution. He became convinced that the French regime could bring about moral regeneration and social reform. With funds from the French-controlled Swiss government, an orphan asylum was opened in Stans, Switzerland, with Pestalozzi as headmaster and sole teacher. The locals, who were predominantly Catholic, expressed

hostility to the Protestant Pestalozzi and were resentful of his ties to the French government. Despite its difficulties, however, Stans earned the reputation of being "The Cradle of the Modern Elementary School."

At Stans, the theories in Pestalozzi's writings were first implemented systematically. Even with 80 students and only one assistant, an atmosphere of familial love was cultivated. No books were used, as instruction was based on sense impression. Rather than traditional recitation of meaningless words, Pestalozzi's goal was to develop the students' powers of attentiveness, carefulness, and reliability. He viewed the strengthening of these skills at a young age as much more significant for later learning than what typically occurred in traditional classrooms. He refused to operate Stans on the broadly held assumptions that the purpose of school was to teach the written word, that children were innately bad and should be punished for not meeting academic expectations, and that education was not essential for the poor. After only five months, this successful experiment ended abruptly when French soldiers retreating from Austria sequestered the facility to establish a hospital.

Shortly thereafter, Pestalozzi moved to the Burgdorf castle, where he began to fuse psychology and education and where he developed the first teachers' college. Using the German word *Anschauung* to refer to the acquisition of knowledge, he taught that no words should be used for instruction until after students had engaged in a process of sense impression. Inadequately translated as intuition, observation, sense experience, perception, or contemplation, *Anschauung* was defined by Pestalozzi as "things before words, concrete before abstract." This concept served as the framework for what popularly became known as the object lesson.

Students at Burgdorf engaged in field trips to the countryside, woods, or seashore, where they collected specimens for object lessons. They closely examined the items, drawing and talking about their observations. They were then instructed to write about their objects and to read to others what they had written. Only after a process involving such concrete observations were teachers permitted to introduce vocabulary or concepts previously unfamiliar to the students. In addition to advancing the object lesson at Burgdorf, Pestalozzi refined and promoted methods such as movable letters, tactile

arithmetic aids, slates, oral group answers, increased student–teacher interaction, and physical education.

Another psychological principle Pestalozzi advocated at Burgdorf was the need for balanced instruction in intellectual, moral, and physical development. Harmony among these powers was essential for proper growth; this view led Pestalozzi to include innovative activities, such as drawing, singing, and physical exercise. Also radical for his time was the notion of the affective pedagogical element, that teachers should love their students. He identified the following dispositions as essential for effective teachers: fatherliness, cheerfulness, affection, and kindness.

Burgdorf closed down in 1801 due to lack of funds. Though his ineptitude as an administrator led to several schools failing, Pestalozzi continued to gain prominence as an innovative educator, especially during his 20-year tenure at Yverdon. Among the international visitors to Yverdon were Friedrich Froebel, Johann Herbart, and William Maclure. Through these and many other visitors, Pestalozzianism spread to Germany, the United States, and other countries, influencing the following developments: kindergarten, scientific pedagogy, the New Harmony experiment, the common school movement, the Oswego Movement, and normal school training for teachers.

Critics indicate the enigmatic nature of Pestalozzi's method, arguing that it fragmented the sciences and neglected history and literature. Unfortunately, the object lesson was later so formalized that it became widely misunderstood, no longer representing the theoretical framework of its originator. Nevertheless, Pestalozzi's influence wrought considerable change in the emphasis given to student interest, respect for the child's natural development, and the overall tone of the modern elementary school.

Samuel James Smith

Note: Adapted from Smith, S. (2010). Pestalozzianism. In T. Hunt, J. Carper, T. Lasley, & C. Raisch (Eds.), *Encyclopedia of educational reform and dissent* (pp. 698–700). Thousand Oaks, CA: Sage.

See also Locke, John; Montessori Education; Rousseau, Jean-Jacques

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PETERS, R. S.

Richard Stanley Peters (1919–2011) was one of the founding fathers of analytic philosophy of education in the 20th century. By introducing the analytic paradigm, he revolutionized the philosophy of education in postwar Great Britain and the British Commonwealth. Peters made a formidable impact not only on philosophy but also on educational studies. Moreover, his intellectual revolution had institutional as well as political effects in the socioeconomic context of the 1960s. This entry outlines Peters's analytic paradigm for approaching problems and policy in education and perennial questions in the philosophy of education; it first introduces this paradigm and then lays out its major components.

The Analytic Paradigm

The new approach to the philosophy of education that Peters did much to develop in the 1960s and 1970s is the outcome of the application of an analytic type of philosophy to educational issues. There were earlier figures working in this mode, notably the Australian Charles D. Hardie, whose pioneering book *Truth and Fallacy in Educational Theory* had the misfortune of being first published in the early days of World War II and thus drew little attention; and Peters also had a stellar contemporary in the person of Israel Scheffler at Harvard. But there can be no doubt that Peters made significant foundational contributions to the analytic approach.

Peters's new approach—the conceptual analysis of educational issues—differs from three other approaches. First, whereas the “older style” of educational philosophy dealing with the ethical, religious, or spiritual foundations of education is speculative, constructive, and comprehensive, the analytic approach is neutral, piecemeal, and antisynthetic. Second, in contrast to the “historical” conception of philosophy of education as dealing with the history of educational ideas and the past masters of educational thought, the analytic approach is ahistorical

and structural. Third, whereas Peters considered the “applied” approach to the philosophy of education, focusing on the educational implications of pure philosophy, to be overly abstract and not concerned specifically enough with what belongs to the educational domain, the analytic approach is firmly anchored in the concrete problems and actual challenges with which educators are confronted in educational practice and policy.

The sort of analytic philosophy that attracted Peters was not the formalistic positivist type but the British ordinary-language type that relies on the analysis of ordinary concepts and commonsense assumptions. Making explicit the underlying principles of the application of a concept is done by defining it in terms of the logically necessary and/or sufficient conditions for its application. In Peters’s view, the point of doing conceptual analysis is that it is a necessary preliminary to answering other, and in his eyes also more important, philosophical questions regarding educational practice and policy, especially questions of justification. Besides being occupied with these moral questions and value judgments, Peters also had a deep interest in the moral development and moral education of children. He studied not only philosophy but also empirical psychology. Summarizing, Peters’s analytical paradigm in the philosophy of education comprises three basic questions:

1. What do you mean by “education”? (a question of conceptual analysis)
2. How do you know that education is “worthwhile”? (a question of justification)
3. How do we adequately conceive of “moral development” and “moral education”? (a question of empirical [or quasi-empirical] psychology)

In developing his detailed and comprehensive view to answer these questions, Peters assumes three theoretical points of departure, without himself ever arguing for their validity:

1. The Standard Social Science Model (SSSM)
2. Ludwig Wittgenstein’s antiprivate language argument
3. Paul Hirst’s forms of knowledge thesis

First, in the “nature/nurture” debate, the SSSM interprets whatever innate equipment infants are born with as highly rudimentary and holds that the

mental organization of children is acquired from culture through learning and education. Second, and connectedly, given that a private language is impossible and that thought presupposes a public language, Wittgenstein’s argument concludes that the mind has a social nature. Third, Hirst’s thesis says that, in contrast to the unifying ideals of mythology, religion, and ideology, the domain of scientific knowledge in Western civilization can be differentiated into a number of logically distinct forms of knowledge, none of which can be reduced to any other.

The Analysis of Education

In his analysis of the concept of education, Peters distinguishes between a generalized and a specific conception of education. On the former conception, education can involve any process of bringing up or child rearing, instructing, and training, whereas on the latter, it is exclusively concerned with processes leading up to “the educated man.” Two logically necessary conditions govern the application of the concept of education (in the latter sense): a value condition and a cognitive condition. First, being educated requires being in a worthwhile state. Second, being educated demands having knowledge and understanding, possessing not only a body of knowledge but also an understanding of the principles or “reason why” of things. Against the backdrop of Hirst’s forms of knowledge thesis, education rules out narrow specialization—education is of “the whole man.” Moreover, education involves the development in some depth of a cognitive perspective with some breadth, such as a perspective having a positive impact on the quality of life as well as being valuable in itself.

Peters arrives at his analysis, as mentioned earlier, by way of an appeal to ordinary language usage. For example, he argues that just as a user of normal English would not say that a prisoner had been *reformed* if she had not changed for the better and was not committed to this new way of life, so a person would normally not be called *educated* unless she had been changed for the better, had now acquired a broad cognitive perspective, and so on. This mode of philosophical argument, however, was not without its critics; the chief issue raised against Peters was that of *whose* usage was being taken as the benchmark here. (The suggestion, of course, was that Peters was adopting the English usage that was normal among only a certain class of English speakers. See Peters, 1973a, chap. 1.)

To return to the main exposition, it is clear that in light of the SSSM, Peters conceives of education as an initiation into a worthwhile form of life—as getting the barbarians outside the gates and our children inside the citadel of civilization. The repositories of the differentiated forms of knowledge and understanding in Western civilization are the sciences. The several scientific traditions transmitted by a public language represent a vast shared inheritance. Peters identifies the humanities as the most important human heritage to deal with the human condition and life's predicaments in the search for a higher quality of life. The role of the teacher in the initiation of children into this cultural heritage is, according to Peters, pivotal and can in no way be downgraded. If culture precedes the individual persons and is external to them, then the educational process is fundamentally driven by an initiator already in possession of culture. In this complex process, the effective cause is the teacher, who antecedently possesses a body of knowledge and who is thereby authoritatively qualified with respect to it. Teachers, therefore, have an essential task, even a “sacred mission.” Education, then, is a process of authoritative transmission of a shared heritage from “masters” to “novices.”

Three salient characteristics of Peters's analysis of education should be noted. First, although the development of some skills (even for playing games or music) and some competences (e.g., an engineering or tool-making competence) can be intrinsically worthwhile, purely vocational training has no, or not much, educational value. Second, the educational aims of child-centered education—such as autonomy, critical thinking, and creativeness—arguably are in tension with Peters's analysis of education as an initiation into public forms of knowledge and understanding. Child development or “growth,” and relatedly the “nature” or “self” of the child, cannot be separated from the constitutive power of education as initiation. Third, Peters sometimes equates the concept of education (in its specific sense) with that of liberal education. Although this concept is beset by ambiguities and dilemmas, it perfectly captures Peters's “liberal traditionalism” in the philosophy of education because liberal education is, besides being traditional, incompatible with authoritarianism and dogmatism.

The Justification of Education

When it comes to educating our children, we believe that some goals are worthy of pursuit whereas

others are not, and that some goals are more worthy of pursuit than others. What are these values that are specific to being educated, and what sort of justification can be given for them? Against the backdrop of Peters's analysis of education above, this justificatory question boils down to the following one: How do we know that education—the initiation into a cultural heritage of knowledge and understanding and the transmission of a noninstrumental cognitive perspective on life with sufficient breadth and depth—is “worthwhile”?

It is hardly controversial that knowledge, skill, and understanding are instrumentally valuable in our present-day technological and democratic society. To tackle the real issue about the intrinsic value of education, Peters distinguishes between a hedonistic and a nonhedonistic type of noninstrumental justification. The first, or hedonistic, type is connected with the “absence of boredom,” absorption, enjoyment, pleasure, and satisfaction, while the second, the nonhedonistic type, is connected with ultimate value and “the values of reason.” Although Peters does not deny the hedonistic value of education, he focuses first and foremost on the fundamental question: Why are knowledge and understanding intrinsically valuable in the ultimate sense? Peters thought that a Kantian transcendental approach is the only viable argumentative strategy to deal with this ultimate justificatory issue.

Here follows a succinct reconstruction of Peters's transcendental argument.

1. *The question:* Why is knowledge (and understanding) intrinsically valuable?
2. *The task:* Give reasons, or a justification, for the intrinsic value of knowledge.

Clearly, (1) and (2) are equivalent, because asking a why-question precisely is an invitation to give reasons or a justification as an answer. To intelligently fulfill the task (2), one needs to ask a further question.

3. *Further question:* What does it mean to give a justification?

To answer this question, Peters invokes the Kantian “transcendental deduction”:

- i. Justification (reason-giving activity) exists.
- ii. Justification would not be possible if we did not think that we have a concern for truth and forms of knowledge.

- iii. So it is necessary that we think that we have a concern for truth and forms of knowledge—for “knowledge.”
- iv. And so it is true that we have a concern for knowledge.

From this deduction, Peters then concludes as follows:

- 4. *The answer:* To give a justification means to have a concern for, and thus to ascribe intrinsic value to, knowledge.

So asking the question (1) about the intrinsic value of knowledge, which is a justificatory question, logically leads to the answer (4) that one cannot but ascribe intrinsic value to knowledge. If one raises the question about knowledge's value, then, in intelligently raising this question, one already presupposes knowledge's value.

Peters's transcendental argument is based on the further assumption that justification itself is intrinsically valuable. *Only if* justification is intrinsically valuable are truth, knowledge, and understanding intrinsically valuable as well. As to the further justification of this assumption, Peters answers that human beings are creatures who live under “the demands of reason.” The demand for justification is not optional for us. As rational animals, humans must engage themselves in reason-giving activity. So, given that justification is part and parcel of human life, one cannot but attribute intrinsic value to justification, on pain of arbitrariness or even inconsistency.

Some critics hold that Peters's transcendental argument for the justification of education is question begging or, at best, only an unconvincing *ad hominem* argument; others despair of ever giving an adequate justification and acquiesce in just historically explaining why education is worthwhile, if at all. However, whether or not Peters's specific Kantian strategy fails in the end, the general justificatory project must be taken up in any serious philosophy of education.

Moral Development and Education

Peters elaborates his approach to moral education in a critical dialectic with Lawrence Kohlberg's cognitive theory of moral development. According to this theory, moral competence is neither the internalized product of socialization nor the effect of genetically guided maturation, but it has to be actively constructed by the mind in a relationship with its

social environment. However, in light of his adherence to the SSSM, Peters appreciates much more than Kohlberg the constitutive role of socialization and internalization in the acquisition of moral competence. He emphasizes that Kohlberg's constructivist theory needs supplementation with other theories of moral education, among which are Skinnerian behaviorism and social learning theory. Moreover, cognitive-developmental psychology is, according to Peters, too one-dimensional in its narrow focus on the cognitive aspect of moral education. It needs, therefore, to be supplemented by an account of the affective aspect of moral development. So the overall picture that Peters offers us is an original comprehensive theory of moral education that tries to do justice to the several facets of our complex moral life.

Against the background of his ethical pluralism, Peters supplements Kohlberg's stage theory of moral development with three additional constitutive factors of moral education. First, against Kohlberg's dismissive attitude toward instilling “a bag of virtues,” Peters argues for the central importance of a code-encased morality in moral teaching. As a corollary, he defends the view that not only reason but also habit is crucial in moral education—children must enter the palace of Reason through the courtyard of Habit and Tradition. Peters connects the Aristotelian idea of moral education by habituation with the Skinnerian idea of moral training by operant conditioning. The educational environment in the moral development of children functions, according to Peters, not only as a contributory cause, in line with Kohlberg's constructivism, but also as a constitutive cause, in accord with social learning theory. Second, and connectedly, what Peters views as Kohlberg's very narrow conception of teaching (conceived primarily as direct instruction) should be supplanted by a broader one to make plausible the claim that moral development essentially involves some process of teaching. On such an unrestricted concept of teaching, the classical Socratic question—Can virtue be taught?—will get a positive answer. Third, the development of moral competence essentially comprises an affective aspect in addition to a cognitive aspect. Besides reason, we also need compassion in educated people, and even reason cannot function on its own without rational passions that provide the motivation to apply rational principles and to support practical reasons. The education of the passions or emotions is, therefore, part and parcel of moral education.

In Kohlberg's stage theory, moral development culminates in an autonomous stage at the post-conventional level. Although Peters agrees with Kohlberg's view that the culmination point of moral education is the rational autonomous person acting on a principled morality, his conception of autonomy is never an absolute one, not even at the postconventional level. Peters, as a moderate liberal, keeps at bay extreme and less intelligible versions of individualism. Autonomy, according to Peters, is a midway attitude between the two extremes of slavishly reproducing authorities and originally creating oneself. As an ideal of character, autonomy cannot be realized unless the child has first been initiated into the framework of worthwhile activities, which constitutes our shared inheritance. Autonomous choice only makes sense on the condition that a perspective on the human condition, canonically enshrined in the humanities, informs it. After being sufficiently initiated into the human heritage, one does not have to rely on authorities in the moral and existential domains to make something of one's own life. At least with regard to the human condition and life's predicaments—basic features of any moral life—one can develop some view of one's own.

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See also Education, Concept of; Education, Transcendental Justification of; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Moral Development: Lawrence Kohlberg and Carol Gilligan; Scheffler, Israel; Wittgenstein, Ludwig

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PHENOMENOLOGICAL PEDAGOGY

In Continental educational discourse, the concept of pedagogy is paired with that of didactics; just as in North America, the concepts of curriculum and instruction tend to be linked. From approximately 1910 to the late 1950s in Germany and from the end of World War II to the mid-1960s in the Netherlands and Scandinavian countries, several generations of educational scholars participated in an emerging form of inquiry and thinking that became known as *Geisteswissenschaftliche Pädagogik*, commonly translated as “human science pedagogy.” Phenomenological pedagogy is a form of human science pedagogy that aims to start from a presupposition-less experiential perspective. Phenomenological pedagogy asks, “How are we to act and live with children, helping them create their human capabilities while realizing that we are apt to do harm?” It reflects phenomenologically on the meaning of pedagogy and, through situation analysis, tries to understand the world of the child as it is experienced by the child. Phenomenological pedagogy claims that one must begin from the phenomenon of pedagogy itself, as it is experienced, rather than from certain philosophical or theoretical concepts or preconceived educational ideas and ideals that would predispose one to see the challenge of bringing up and educating children and young people in foreclosed ways. This does not mean that one can free oneself from one's cultural and historical context, but it does mean that one can orient to the way in which the pedagogical context is experienced in the here and now.

Origins

The first proponents of the human science tradition in education included Wilhelm Dilthey, Herman Nohl, Wilhelm Flitner, Josef Derbolav, and Theodor Ballauff. The theoretical corpus of this group became known as the Dilthey-Nohl school and was

primarily oriented to explicating the meaning of pedagogy in human life. Pedagogy was approached on the basis of two modes of manifestation: (1) pedagogy as a primordial human phenomenon and (2) pedagogy as a cultural phenomenon.

Interest in human science pedagogy was especially motivated by the desire to be freed from the normative constraints exerted by old pedagogies. In the 18th and 19th centuries, the education and upbringing of children were strongly influenced by the norms and values of the church (Catholicism and Protestantism), denominational belief systems, and class-driven ideas. With the emergence of the human sciences (*Geisteswissenschaften*), the taken-for-granted beliefs and practices of historical pedagogies were increasingly questioned and philosophically interrogated. In this critical context, phenomenology and hermeneutics became strong philosophical platforms for attempts to develop new approaches to pedagogy emancipated from the normativities and habituated presumptions and prejudices of the social and ideological milieus in which they operated.

Dilthey argued that the study of pedagogy must start with an explication of the pedagogical relation between child and adult. Nohl was largely responsible for working out a pedagogical philosophy on the basis of Diltheyan starting points and formulations. Like many of his colleagues, Nohl taught a portfolio of philosophy, pedagogy, and ethics. An early phenomenological theme in Nohl's approach was to place the phenomenon of bringing up and educating children squarely in the lifeworld of everyday thinking and acting. He resisted the common inclination to derive insights into the practice of pedagogy from theory. In keeping with Dilthey's distinction between explanation and understanding in the human sciences, Nohl resisted using objectifying and natural scientific approaches to pedagogical questions. He was keen to relate pedagogy to emancipatory cultural developments in the service of the educated person, for which the Germans used the term *Bildung*. Nohl described the pedagogical relationship between adult and child as an intensely experienced one, characterized by three aspects. First, the pedagogical relation is highly personal, animated by a special quality that spontaneously emerges between adult and child and that can be neither managed or trained nor reduced to any other human interaction (e.g., friendship, being a buddy, etc.). Second, the pedagogical relation is an intentional relation, wherein the pedagogue is always

oriented in a double direction: (1) caring for a child as he or she is at present and (2) caring for a child for what he or she may become. Third, the pedagogical relation is an interpretive one. The educator must constantly be able to interpret and understand the present unique situation and experiences of the child and anticipate the moments when the child in fuller self-responsibility can increasingly and meaningfully participate in the culture. This notion of the pedagogical relation between child and adult has become a central theme in the subsequent development of the field of phenomenological pedagogy.

Friedrich Schleiermacher pointed at two grounding antinomies of pedagogy: (1) the polarity of individual versus social or universal ends of pedagogical action and (2) the duality of the positive and the negative, the good and the bad, in the process of encouraging, stimulating, restraining, and disciplining the child. These distinctions gave rise to Theodor Litt's (1949) *Führen oder Wachsenlassen* (*Giving Guidance or Letting Be*), which discusses the dialectic of giving active direction to a child's life while being sensitive to the requirements of letting go or holding back. Human science pedagogy became characterized by a continual reflection on welding together such antinomies—the ideal versus the real, freedom versus control, dependence versus independence—to expose the need to come to terms with paradoxical polarities in everyday life situations, especially at the level of values and pedagogical thought.

The Nature of the Pedagogical Lifeworld

Concretely put, the pedagogical lifeworld is full of tensions and contradictions. The child wants to do something himself or herself, but the parent feels responsible to assist or restrain the child in order to avoid a dangerous or undesirable situation. A new parent or teacher vows never to say no to a child but finds it impossible to live up to the determination. One struggles with the tension between what one would like to be (able to do) and what one is (capable of) at present. Supper is on the table, but the child would rather eat junk food; the child wants a Facebook account, but the parent worries that she is not yet old enough. These are examples of the endless contradictions, conflicts, polarities, tensions, oppositions, and so forth that structure the reality of the pedagogical lifeworld. Most parents or teachers know by experience the challenges that these antinomies pose to everyday practical acting and

living with children. For Litt, no theory of pedagogy can be satisfying if it does not address the inherent antinomies of daily life.

A more quotidian articulation of the human science pedagogy occurred in the approach to pedagogy of Martinus Jan Langeveld, Otto Friedrich Bollnow, Klaus Mollenhauer, Nicolaas Beets, and Ton Beekman. In fact, it may be argued that “phenomenological pedagogy” proper only truly began with the work of Langeveld, though his work was clearly rooted in the *Geisteswissenschaftliche* pedagogy of his predecessors. Like some of his contemporaries, Langeveld studied with Theodor Litt, and he followed lectures with Edmund Husserl and Martin Heidegger. Other philosophical influences in the development of phenomenological pedagogy include phenomenologists such as Jean-Paul Sartre, Emmanuel Levinas, Georges Gusdorf, Helmuth Plessner, and Maurice Merleau-Ponty. In Langeveld’s widely read book *Beknopte Theoretische Pedagogiek* (*Concise Theoretical Pedagogy*), he shows the need to grasp the meaning of the lifeworld of the child, not only from a hermeneutic ontological perspective but also from the point of view of the child. The center of pedagogical interest must reside in a sensitive grasp of *meaning as lived and experienced by the child*. Langeveld suggested further that to come to an understanding of what is good for the child, what is educationally desirable, we must first be able to listen to the child in a manner that respects the child’s subjectivity—the way the child experiences and perceives things.

The question of the lived meaning of the pedagogical relation, the focus on the lifeworld, the recognition of paradoxical antinomies in everyday pedagogical situations, and the primacy of practice over theorizing may all be regarded as themes of phenomenological pedagogy. Langeveld posited the primacy of normative or ethical thought in phenomenological reflection about our living with children. He set out to show that the pedagogical situation in everyday life is from the very beginning ethical, finding its origin in the relation of parent and child or teacher and student. Pedagogy does not just want to know how things *are*; pedagogical inquiry always has an inherent practical intent because, sooner or later, this knowledge figures in how one must *act*. So for phenomenological pedagogy, the issue of the place and meaning of phenomenological inquiry is primarily a function of how one stands and acts in the world. Langeveld proclaimed that he was not

interested in the philosophical intricacies of phenomenology but only in its method.

Pedagogy and Phenomenological Method

The method implicit in the writings and work of scholars like Langeveld, Beets, Bollnow, and van den Berg is characterized by two things. First, phenomenological method consists of reflecting on the fundamental aspects of pedagogy as a unique and autonomous phenomenon; essential themes of pedagogy are aspects such as pedagogical responsibility (Langeveld), pedagogical authority (Arendt), the pedagogical atmosphere (Bollnow), pedagogical diagnosis (Beets), and the pedagogical relation (Spiecker). Second, phenomenological method consists of situation analysis of specific lifeworld phenomena in the lives of children or young people and adults; topics included the experience of the secret place (Langeveld), the child’s experience of things (Langeveld), the experience of play (Vermeer), the time at school (Langeveld), and street life (Beets).

Phenomenological pedagogy is an ethical-normative practice because it distinguishes between what is good and what is not good for a child. Langeveld often repeated that there exists no closed or universally acceptable rational system to tell us how we should behave with children in our everyday actions and how we should rationally justify our pedagogical approaches and methods. What is reasonable to one person may appear unreasonable to another. Instead, Langeveld sought to locate phenomenologically the norms of pedagogical action in the concrete experiences of everyday living with children around the home and at school.

Pedagogy is what happens in the interaction between the adult and the child, providing the interaction is based on a pedagogical intent. And yet there is a difference between acting and reflecting. The pedagogue needs theoretical and historical understanding, since it is important to know that the educational problems we face are typical of our time and that pedagogical concerns change over time. For example, how should we understand the responsibility of children for their actions? Langeveld held that it is precisely children, or the young in general, who cannot be held responsible. They did not ask for their lives; they live initially in complete dependency. And even adults do not always appear to be able to carry the full load of the consequences of their responsibility personally.

On the one hand, the aim of pedagogy is to help young people assume independence and personal responsibility as mature adults; however, we know that even adults will never be totally independent and self-responsible. Therefore, Langeveld says that the aim of pedagogy is not just independence or self-reliance but taking and bearing complete responsibility, yet without being able to carry it individually. Obviously, some of these phenomenological reflections are open to ongoing discussion as times change, and they must be situated in a systematic understanding of historical and theoretical literature. Philosophical reflection forces one to be accountable, subjects one's views and actions to criticism and discussion by others, and thus leads to new perspectives and self-understandings.

Therefore, to study pedagogy is to change one's self. Parents and teachers know this all too well. Once children have entered one's life, one changes in ways that may be difficult to explicate and yet are unmistakable. The question is how one can identify and "form" oneself in the everyday experience of the pedagogical encounter: in other words, in the life of the child. But this is only possible if one does not lose oneself in this identification but, in spite of and even thanks to this identification, remains oneself and at the same time empathically lives in the situation of the other—the child. To not lose oneself, two things are necessary according to Langeveld: (1) one must know who one is and (2) one must become aware of the complex values and forms of knowledge that ultimately reflect, shape, and orient one's life and give meaning to one's own experiences.

Recent Developments

More recently, human science has been revived and given new methodological directions—such as, among others, studies of the pedagogy of media and technology and their impacts on the pedagogical relation in classrooms and other educational settings (Adams, 2006, 2012); the orthopedagogy of seeing the abilities and disabilities of children pedagogically (Saevi, 2005) and addressing all those concerned with a problematic education situation rather than focusing on the child alone; and the phenomenological pedagogical studies of parents' ethical experiences of their newborn infants in the context of the pedagogy of technology in neonatal care (van Manen, 2012).

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See also Arendt, Hannah; *Bildung*; Heidegger, Martin; Hermeneutics; Phenomenology; Sartre, Jean-Paul; Schleiermacher, Friedrich

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PHENOMENOLOGY

Phenomenology is the name for the major philosophical orientation in continental Europe in the 20th and 21st centuries. Phenomenology is not a substantive discipline, such as psychology, biology, or sociology; rather, it is the study or inquiry into how things appear, are given, or present themselves to us in prereflective or lived experience. In this sense, phenomenology is primarily a method. It is often called a hermeneutic phenomenological method of reflecting on experience while abstaining from theoretical, polemical, suppositional, and emotional intoxications. *Hermeneutic* means that reflecting on experience must aim for interpretive language and sensitive linguistic devices that make the phenomenological analysis, explication, and description of lived meaning possible. This entry begins with a brief overview of the questions and challenges at the core of phenomenology and the contributions of important figures in phenomenology over the past century. It goes on to describe the five main approaches to phenomenological reflection and the

rootedness of such reflection in lived experience. An exploration of phenomenology's specific forms of engagement with education and educational theory follows, and the entry concludes with a discussion of the various ways in which the phenomenological approach has been adapted within the framework of the human sciences generally.

In the past 100 years, scores of philosophers and human science scholars (to name a few, Edith Stein, Jan Patočka, Emmanuel Levinas, Maurice Merleau-Ponty, Maurice Blanchot, Jacques Derrida, Jean-Luc Nancy, Bernard Stiegler, Jean-Luc Marion, and Jennifer Anna Gosetti-Ferencei) have been inspired to take up the phenomenological challenge of exploring where and how meaning originates, what it means to understand something, and how self and other are implicated in the ethics of presence and otherness, being and alterity (otherness of the other). In the context of the long and complex philosophical tradition of phenomenology, it should be obvious that there are various intricate descriptive and interpretative elements at work in phenomenological inquiry. Phenomenology is, in some sense, always descriptive and interpretive, linguistic and hermeneutic.

Although there are certain precursors to philosophical phenomenology, such as Immanuel Kant, Friedrich Nietzsche, and Georg W. F. Hegel, it is generally agreed that the founding figure of phenomenology is Edmund Husserl. His aim was to find a method for arriving at indubitable knowledge that could serve to establish a firm epistemological basis for the sciences. Husserl believed that it is possible to grasp and describe the essential meanings of intended objects as they appear in consciousness; the proper focus of phenomenology is on the way objects appear or give themselves—their transcendence. The second major figure in the development of phenomenology was Husserl's student Martin Heidegger, who argued that the attempt to formulate indubitable knowledge was too presumptuous, since the meaning of objects as experienced is ultimately as elusive as the temporality of experience as lived. The “I” of the living present always dissolves under the objectifying and subjugating gaze of the “I” of the reflective self. Heidegger radicalized Husserl's phenomenology by pointing out that the proper focus of phenomenology is not epistemological but ontological. To ask how a phenomenon appears in consciousness is already to assume an abstraction, namely, the idea of consciousness itself. Heidegger argued that phenomenology must aim for

the more fundamental concrete or existential question of how meaning comes to be. The reflective understanding of experience becomes an ontological project: exploring the Being (ontological meaning) of the being of things. Ontology is concerned with phenomena as modes of being in the world.

Every mode of being-in-the-world is a way of understanding that world. Phenomenology gradually grew into a living tradition that soon sprouted into a variety of distinguishable orientations. A living tradition is a tradition that constantly reinvents itself. So perhaps, it is even more appropriate to regard phenomenology as a tradition of traditions.

Phenomenological Reflection

There are various ways in which phenomenological reflection may be understood, depending on its presuppositions and its practice. Here follow some distinctions:

1. Husserlian phenomenology tends to be understood as the epistemological process of eidetic analysis: exploring the *eidōs* or essence of what appears in consciousness and how it appears or “gives” itself. Husserl contrasted two modes of givenness of an object in experience: (1) the object as experienced in external perception, such as my house as seen from where I stand, and (2) the object as experienced in internal perception, such as my house as I nostalgically remember it while traveling. The house as perceived from external perception is always seen only from a certain vantage point. It is impossible to see the house in its totality from all possible points of view. And yet the house as object given in internal perception transcends the house that I perceive while standing in front of it. In other words, the house as an object of lived experience is given in its essence. When I think of my house, I don’t just think of it as perceived from the front, the side, the back, or some other vantage point. Rather, I “see” the house as intuitively given as a house, in all its many exterior and interior aspects, meanings, and significations. Phenomenology as transcendental reflection goes beyond the object as naively seen through empirical perception. Husserl is especially concerned with how we come to know what appears in consciousness as living experience. This reflective understanding of experience is an epistemological project: determining how to gain clarity with respect to the phenomena of our world.

2. With Heidegger, the notion of reflection problematizes the ultimate irreducibility and fundamental

concealment of the meaning of experience and the “I” or the self. Experience is meaningful in the sense that it is so full with meaning that it cannot be completely fathomed. The living meaning of something cannot just be grasped in its essence. The understanding of experience becomes an ontological project: exploring the Being (ontology) of the being of things. Phenomenology as ontology is concerned with phenomenological understanding as modes of being-in-the-world. All modes of being-in-the-world are ways of understanding the world. These two epistemological (Husserlian) and ontological (Heideggerian) impulses can be traced throughout the many writings of phenomenological scholars.

3. Husserl’s consciousness epistemology and Heidegger’s formal ontology have both been challenged from the more down-to-earth reflective perspectives emerging from corporeal, quotidian, and existential reflections, for example, by Patočka, Merleau-Ponty, and Sartre. The latter argued that Husserl and Heidegger remained too aloof and cut off from the mundane everyday realities of life.

4. In addition, the transcendental, ontological, and existential phenomenologies of Husserl, Heidegger, Sartre, and others have been recalibrated to focus away from *eidōs* and essence toward what is “other,” as exemplified in the work of Emmanuel Levinas, Alphonso Lingis, and Bernhard Waldenfels. Phenomenological reflection guided by alterity is concerned with ethics and the realization that the other cannot be reduced to the self.

5. For still others, such as Jacques Derrida, Jean-Luc Nancy, and Jean-Luc Marion, the reflective meaning of phenomena and the sense of the world coincide with the enigma of singularity, self-givenness, and the originary. They point out that phenomenological reflection paradoxically deflects clarity about the world as we see it, touch it, and are touched by it. For example, Marion suggests that some phenomena, such as the event, sacrifice, and love, are so saturated with meaning that it is impossible to come to an eidetic understanding of them. So a third kind of reflection is required that purely orients to the self-givenness of what gives itself.

6. Still other ways in which phenomenological reflection may be understood are evident in the material phenomenology, and technogenetic perspectives, of thinkers as different as Hubert Dreyfus and Bernard Stiegler.

Lived Experience

Broadly speaking, what the above varieties of phenomenological reflection have in common is that each involves reflection on prereflective experience or the lived “now.” Lived experience may be considered the starting point and end point of phenomenological research. It may be argued that many other qualitative research approaches also take human experience as the main epistemological source. This is true. But for phenomenology, the concept of “lived experience” (*Erlebnis*) possesses special philosophical and methodological significance. The notion of lived experience announces the intent to explore *directly* the originary or prereflective dimensions of human existence. Husserl used the term *prepredicative experience* to refer to experience before it has been thematized and named. It is important to dwell on the question of the meaning of lived experience because an understanding of the sometimes enigmatic nature of the notion of lived experience allows adoption of a proper phenomenological perspectival attitude, necessary for doing phenomenological inquiry. The focus on “lived experience” means that phenomenology is interested in recovering somehow the living moment of the “now” or existence—even before we put language to it or describe it in words. But what is this “now”? In keeping with the method of phenomenological research, the researcher is directed toward exploring a recognizable human experience (phenomenon) as it is lived through, rather than how we conceptualize, theorize, or reflect on it.

We may wonder what happens in the fleeting moment of casting a glance at someone or how we experience being seen by someone. Or we may wonder how human beings experience a digitally mediated world now, as compared with the way humans experienced their world in the industrial age or in ancient times. And what “is” it when we study the glance or technology?

Phenomenology tries to show how our words, concepts, and theories inevitably shape and give structure to our experiences as we live them. For example, it is one thing to get lost in a novel, but it is another to retrospectively capture what happened to us, just now, as we slipped into the textual space and began to dwell in the story. Similarly, health science professionals identify, categorize, and rate with empirical descriptors the nature and intensity of various forms of pain. But the actual moment of suddenly being struck by pain or the condition of suffering a chronic pain somehow seems to be

beyond words. On the one hand, medical science is able to draw a diagnostic profile of clinical conditions, such as obsessive-compulsive disorder. On the other hand, it is difficult to capture in language what an actual moment of obsessive compulsive thought or behavior consists in: this strange moment of compulsively and simultaneously wanting and not wanting to think or do something. Similarly, as teachers or as parents, we talk about our children learning, and yet do we really know what happens experientially, in that living moment of learning something?

Phenomenology in Education

In the history of education, phenomenology has made appearances as a philosophy of education, as an approach to professional practice, as an approach taken up by curriculum scholars, as philosophical reflections on education, and as a human science research method. These five appearances of phenomenology in education will be briefly characterized below, followed by some further reflections on the nature of phenomenology as a human science method.

Phenomenology as a Philosophy of Education

Phenomenology as a philosophy of education became prominent with authors such as David Denton, Donald Vandenberg, Leroy Troutner, and Maxine Greene during the 1960s and 1970s. David Denton was inspired by Martin Heidegger’s ontological phenomenology. His essay “That Mode of Being Called Teaching” is an example of his meditative reflection on teaching as a way of being-in-the-world. Denton attempted to clarify the reality of education by means of existential analysis of themes such as temporality and embodied-being-in-situation. Denton criticized functional explanations of educational phenomena and argued that understanding requires hermeneutical interpretation and attention to mythology. He responded to the call to teach as a mode of being that is indeed a calling, a vocation.

Donald Vandenberg, who was similarly influenced by his readings of Heidegger, also departed from a philosophy of existential phenomenology. He was especially inspired by the more conceptual and dialogical approach of the Husserlian philosopher Stephen Strasser. Vandenberg attempted to find common ground with conceptual analysis and ordinary language philosophy, which has been dominant in philosophy of education. But he did not reflect on the meaning and use of language in

phenomenological descriptions. Denton criticized Vandenberg's theoretical work for being insensitive to the poetic dimension of language. Phenomenology, in Denton's view, should not be seen as theory development.

Troutner attempted to work out a relation between John Dewey's empirical method and phenomenology. In one of his best-known essays, "Time and Education," Troutner contrasts the usual conception of school time as clock time and objective time with a more Heideggerian sense of temporality. The phenomenology of school time must reflect on the ways children experience and sense time as the ground of personal becoming and as the primordiality of openness to the future. According to Troutner, a phenomenology of school time should be sensitive to the formation of self-identity and the development of personal authenticity.

Perhaps, Maxine Greene, in seven books and numerous articles, presents the most celebrated example of a phenomenological philosophy of education. She declared that she has been deeply influenced by existentialism and especially by the work of Heidegger's student Hannah Arendt. More than any of her colleagues, Greene interlaced her educational reflections with a wealth of references and quotes from novels and other forms of literature and the fine arts. Like Arendtism, the writings of Maxine Greene frequently are inspired with political activism. She is constantly moved and motivated by the desire to address the injustices inflicted on youth and the needs of children here and abroad. She is extremely well-read and engages deeply and actively with voices such as those of Adrienne Rich, Susan Sontag, John Dewey, and Paulo Freire. Greene's book *Teacher as Stranger* is a plea for personal reflection and for the realization of one's own life projects.

So it appears that the writings of educational philosophers such as Denton, Vandenberg, Troutner, and Greene are inspired by the phenomenologies of thinkers such as Heidegger, Sartre, Merleau-Ponty, Minkowski, and Camus and that they in turn often inspire others to think about teaching. However, in spite of their intent to be relevant to the practice of living, their writings have tended to remain more meditative, abstract, and theoretic than down-to-earth, concrete, and practical.

Phenomenology as an Approach to Professional Practice

Phenomenology as an approach to professional practice is exemplified in the work of the proponents

of the Dutch and the German phenomenological approach to pedagogy. A more lifeworld-sensitive approach to the phenomenology of education may be found in the writings of scholars who are not first of all philosophers of education but rather professional practitioners whose writings and thinking aim to understand how children, teachers, and parents actually experience their lived world. For example, Martin Langeveld, Jan Hendrik van den Berg, Nicolaas Beets, Otto Bollnow, and Ton Beekman have engaged in phenomenological situation analysis of specific and relevant experiential phenomena, such as how children experience a secret place, the mood of going to school in the morning, the experience of the first smile in a young child, playing hide-and-seek, and so forth. These scholars were less interested in the formal philosophical discourse of philosophical phenomenology than in exploring everyday meaningful experience from a phenomenological attitude. For example, the psychiatrist van den Berg wrote, among other things, about the changing nature of childhood; the pedagogue-philosopher Bollnow wrote on the pedagogical atmosphere, the pedagogy of trust, confidence, celebration, and so on.

Phenomenology as Taken Up by Curriculum Scholars

Phenomenology as taken up by curriculum scholars includes the work of, for example, Dwayne Huebner, William Pinar, Madeleine Grumet, Ted Aoki, and Philip Jackson. Although philosophy of education and curriculum thinking tend to be regarded as separate disciplines, some of their proponents may be seen to belong to both domains. Curriculum scholars tend to be preoccupied with questions of what is taught, to whom, why, how, and to what end—in schools and classrooms. In his essay "Curriculum as Concern for Man's Temporality," Dwayne Huebner questions the meaning and centrality of the concept of learning, and he uses Heidegger's *Being and Time* to rethink teaching as being and to reflect on curriculum as environmental design. William Pinar and Madeleine Grumet use the method of biography and narrative as a way to interpret curriculum as the journey of one's personal life curriculum. Pinar employs Sartre's notion of method as imaginary, extended reflection and meditation and as a resource for rethinking and reconceptualizing the meaning of curriculum, teaching, and learning processes. Curriculum is commonly regarded as a program of studies, but Ted Aoki draws distinctions between curriculum

as planned and curriculum as lived, thus bringing to the fore the contingent, situated, personal, and dynamic aspects of curriculum as lived and enacted in the classroom and in the relation between student and teacher, student and the instrumental content of teaching. Interestingly, although Philip Jackson does not explicitly identify with phenomenology, his work is perhaps more sensitive to the phenomenological project in his attention to the ways life in classrooms is actually experienced by teachers and students.

Phenomenology as Reflection by Philosophers Outside the Field of Education

Phenomenology as philosophical reflection on education by philosophers outside the field of education is exemplified in the work of Iain Thomson. A phenomenological philosopher, Thomson uses the ontotheology of Heidegger's writings on technology to criticize the administrative and policy developments in education. He points out how our technological understanding of being produces a calculative mentality that tends to quantify all qualitative relations, reducing entities to binary, programmable information. There is a certain irony in the fact that even the increasing popularity of qualitative inquiry in education has not prevented educational practice from cementing ever more firmly into pre-occupations with calculative policies and technological solutions regarding the productivity of learning outcomes, the accountability of standards of practice, the measurement of educational effectiveness in terms of school ranking, the codification of ethics governing programs of research and teaching, and so forth.

Phenomenology as Educational Research Method

Phenomenology as educational research method is worthy as a separate topic since none of the above educational philosophers, professional practitioners, and curriculum scholars who have associated themselves with the existential phenomenological tradition address the topic of how phenomenological reflection is done and how phenomenology can be approached as a research method. This problematic is presented by authors such as Amedeo Giorgi, whose Husserlian psychological phenomenological method has been adopted by many researchers in education, and by Max van Manen, who offers a method that is less procedurally driven but grounded in the rich philosophical phenomenological tradition.

Phenomenology as research method includes the following methodical features:

- a. Phenomenological research begins with wonder at what gives itself and how something gives itself.
- b. A phenomenological question explores what is given in moments of prereflective, prepredicative, or lived experience.
- c. Phenomenology aims to describe the exclusively singular aspects (identity/essence/otherness) of a phenomenon or event.
- d. The *epoché* (bracketing) and the reduction proper are the two most critical components of the various forms of reduction—though both are understood differently by different leading phenomenologists. The reduction is not a technical procedure, rule, tactic, strategy, or sequential set of steps that we should apply to the phenomenon that is being researched. Rather, the reduction is an attentive turning to the world when in an open state of mind, effectuated by the *epoché*. It is because of this openness that a phenomenological insight may occur.

Phenomenology and Human Science Methods

As the phenomenological approach was imported into professional disciplines such as psychology, education, pedagogy, nursing, and medicine, its methodological resources started to include research methods and tools that belong to the social sciences. First, it adapted data-gathering methods, and second, it adapted reflective methods and techniques.

Empirical and reflective methods and procedures can assist the practice of doing phenomenology in professional contexts. Empirical methods describe the various kinds of research activities that provide the researcher with experiential material. They include personal descriptions of experiences, gathering written experiences from others, interviewing for experiential accounts, observing experiences, investigating fictional experiences, and exploring imaginal experiences from other aesthetic sources.

Reflective methods describe certain forms of analysis or phenomenological reflection. We may distinguish thematic reflection, guided existential reflection (corporeal, temporal, spatial, material, and relational reflection), collaborative reflection, linguistic reflection, etymological reflection, conceptual reflection, exegetical reflection, and hermeneutic

interview reflection. In any research project, the selection and usage of empirical and reflective methods and procedures depend on the context and the nature of the study. The important point is that these methods and procedures differ from those in other forms of qualitative research.

Systematic “data” gathering through interviews, observations, descriptive accounts, and so on is rarely used in philosophy proper. But in professional fields such as education, experiential accounts or lived experience descriptions may provide the researcher with rich material. The written accounts that people provide of their experience may be highly recognizable. And some of the narrative accounts may be integrated in the phenomenological research text.

The main purpose of the empirical (and exegetical) methods is to explore examples and varieties of lived experiences, especially in the form of anecdotes, narratives, stories, and other lived experience accounts. The lifeworld, the world of lived experience, is both the source and the object of phenomenological research. And so one needs to search everywhere in the lifeworld for lived experience material—through interview, observation, language analysis, and fictional accounts—and one needs to realize, of course, that experiential accounts or lived experience descriptions are never identical to lived experience itself. All recollections of experiences, reflections on experiences, descriptions of experiences, taped interviews about experiences, or transcribed conversations about experiences are already transformations of those experiences. Even life captured directly on magnetic or light-sensitive tape is already transformed at the moment it is captured. Without this dramatic, elusive element of lived meaning to our reflective attention, phenomenology might not be necessary. So the upshot is that the researcher needs to find access to life’s living dimensions while hoping that the meanings brought to the surface from the depths of life’s oceans have not entirely lost some of the natural quiver of their undisturbed existence, as Merleau-Ponty might say.

As soon as we nod to the inevitable predicament that we can never grasp the present as present, we may also become aware that the matter is even more complex: The movement from the pre-reflective to the reflective moment exposes a gap. The past is always too late to capture the present as present. Therefore, some phenomenologists say that the past has never been present. The past is always already there. The living moment of the instant is prereflective in the sense that the living and the lived

dimensions of “lived experience” are the same, and yet, paradoxically, they do not coincide. Therefore, Levinas spoke enigmatically of a past more ancient than every representable origin. The present is already the past. But the past is a present that never was—never quite like this. Rather than shrug our shoulders and say that phenomenology is simply “impossible,” we should actually acknowledge and embrace this “impossibility” as the condition for all true inquiry in the human sciences. This impossibility is what makes phenomenology so compellingly fascinating and ultimately possible. Without the realization that human experience is related to an absent present that can only be accessed through an unrecoverable past, phenomenology would not be what it is: the most radically reflective and most demanding approach to the study of life and education as we experience it.

Michael van Manen and Max van Manen

See also Arendt, Hannah; Beauvoir, Simone de; Buber, Martin; Deconstruction; Dewey, John; Embodiment; Foucault, Michel; Greene, Maxine; Hegel, Georg Wilhelm Friedrich; Heidegger, Martin; Hermeneutics; Nietzsche, Friedrich; Phenomenological Pedagogy; Phenomenology; Sartre, Jean-Paul; Wittgenstein, Ludwig; Young, Iris Marion

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PHILOSOPHICAL ISSUES IN EDUCATIONAL RESEARCH: AN OVERVIEW

The quality of educational research, both *as* research and *as* educational, has been the subject of lively discussion in the Western world for many decades. The issues that have been aired in depth include the appropriate methodologies that should be used; the relative worth of research that provides an in-depth portrait of a particular situation of educational interest versus research that aims to provide findings that are generalizable across many settings and populations; and the relevance of research findings for the formation of educational policy and the training of teachers. Although this entry contains discussions pertinent to these issues, the main point developed is that discussions of educational research too often fail to provide an analysis of what makes it distinctively *educational*. A piece of research that focuses on how to promote learning, or on the impact of schooling on an individual's subsequent earning power, is not necessarily *educational* research. This entry develops the case that, while research having an empirical social science orientation potentially can produce educationally relevant findings, educational research per se must take account of the student's mental life—the values, motives, and understandings that drive his or her actions and decisions. Such research draws on interpretive, qualitative methodologies. Before pursuing this main agenda, however, an important preliminary matter warrants discussion.

How the University Setting Can (Mis)Direct Educational Research: A Cautionary Tale

Although some educational research, and research that is related in some way to education, takes place within institutions outside of universities—in research or policy units attached to government departments of education, for example, or in large semi-independent laboratories (such as those that were established decades ago in the United States)—most research takes place in university settings. In this latter context, severe tensions have arisen, as is illustrated by a notorious example from the United States.

In the late 1970s, the once internationally renowned University of Chicago Department of Education gave up teacher training to concentrate its efforts on the theoretical understanding of education. The big research questions being pursued, and the answers to them, were those to be expected of a university as prestigious as that of Chicago—leaving the practical training of teachers, hopefully enlightened by the discoveries of educational research, to other, less prestigious, institutions. Although practical training, informed by research, is crucial for the development of quality teaching, it is time-consuming, it requires different skills and knowledge from those of research, and, indeed, it might be considered a distraction from the serious business of research. Therefore, the Department of Education abandoned teacher education and training to concentrate on educational research. It joined the Faculty of Social Sciences. However—and here the tension became glaringly apparent—evidently because what passed for educational research did not meet the demanding tests of the University's social scientists and because, on the other hand, the educationists were out of touch with schools (having abandoned teacher training), there was no constituency supporting the work of the department, and so it was allowed to die.

The problem illustrated by this case is complex and grave. At the heart of it is the relationship between universities on the one hand and schools and other educational settings on the other, and the nature of that relationship in terms of research. Should educational research aspire to become a sub-branch of the (oft-called ivory tower) social sciences, or should it become the handmaiden of educational practice, using whatever methods are at hand? To make headway with this dilemma, we need to pursue more deeply what we mean by *educational*

research. This philosophical question is explored in this entry.

Research and the Pursuit of Knowledge

Throughout the 20th century, there were many critics of the quality of (putatively) educational research (see Walters, Lareau, & Ranis, 2009) and of its inability to provide guidance for educational practice. It became commonplace, in this context, to contrast educational research unfavorably with medical research. It was the prevalence of such criticism (most notably in the United Kingdom and North America) that led, in the recent past, to a worldwide interest in prevailing models of medical research, in particular that of randomized experimental control trials. (Indeed, it became standard in the closing decades of the 20th century to refer to the randomized controlled experiment as the “gold standard” of research design.) Research done in this mode requires very large samples, strenuous efforts to deflect “threats to validity,” systematic reviews of all seemingly relevant research, and the “meta-analysis” of those reviews. Accompanying the ascendance of the gold standard was a growing suspicion of research that used qualitative methods. This research usually focused on particular cases; and because generalization from one case to another would have to ignore the particularities of the case, such research hardly provided a reliable body of knowledge that could serve as a basis for policy or, indeed, for practice.

This emulation of medical research practice led to the establishment of the Campbell Collaboration, an international organization inspired by the work of the Cochrane Collaboration (*in the field of medicine*), that helps policymakers, practitioners, and the public make well-informed decisions about policy interventions “by preparing, maintaining and disseminating systematic reviews of the effectiveness of social and behavioral interventions in *education* [italics added], crime and justice, and social welfare” (Campbell Collaboration, n.d.).

Perhaps, only those who emulate the scientific and medical model of educational research (i.e., the systematic accumulation of a body of general knowledge that can survive empirical testing and that can be widely applied to educational practice) can be seen as genuine researchers. For, the argument runs, reliance on educational interventions require clear evidence that, in this or that circumstance, they will produce the predicted and desired

outcomes, and this evidence needs to be scientifically impeccable in order to be the basis of such interventions. Educational theory thereby can easily become a branch of the social sciences, as happened in Chicago.

Skewing the Kind of Knowledge Being Sought

There is a danger of identifying knowledge with what can be expressed sufficiently precisely in propositions that can be empirically verified or that at least have survived rigorous attempts to falsify them. Of course, such propositions need to specify clearly the context and the population to which the conclusions apply—the age of the children, say, and the kind of socioeconomic conditions that prevail. Hence, some conclusions are more universally applicable than others. It is easy, therefore, to see the attraction in the demand, especially from policymakers, for large-scale randomized tests, with their experimental and control groups. After all, as is the case with epidemiological studies, these have led to advances in medical practice. Thereby, one can come to know “what works.” The conclusions are sufficiently precise that one knows what further observations would lead either to the confirmation of the conclusion or to its refinement in the light of further evidence. Progress can thus be made in educational understanding; improvement can thereby be made in educational practice—precisely what many have argued has not been achieved.

However, while in general, there is no reason to doubt the value of such empirical social science research, it is important to realize that it by no means exhausts the possibilities for educational research—there are indeed limitations to its educational significance. Indeed, what makes it *educational* research, other than that, together with many kinds of research in the social sciences, it sheds light on the context in which educational aims are being pursued, and on the manner in which they are being pursued? Medical research also sheds light on the capacity of some pupils to learn, but it is not, as such, referred to as *educational* research. Recent work on the brain has relevance to the ways in which learning might be promoted or inhibited, but it is not thereby seen specifically as *educational* research. Where such research is seen to be relevant, it is not therefore transferred to departments of education. It remains within the social sciences or medical faculties, albeit informing the efforts to pursue one’s educational aims.

So here we get to the nub of the matter: There are two reasons why the knowledge produced by such research—although often relevant to the educational enterprise—is not, strictly speaking, *educational* knowledge. The first reason is that there is a difference in kind between the knowledge arising from the social sciences and the knowledge that is directly relevant to the education of persons. The second reason lies in the distinction between propositional and practical knowledge—between “knowing that” and “knowing how.” These will be discussed in turn.

Education and Knowledge About Persons

We talk of educating *people*, not dogs or donkeys—though, regarding these, we may very well speak of training, that is, changing their behavior through reinforcement. But in *educating* people, we make certain assumptions about what it means to be a person and to be one more fully.

What distinguishes persons, so that the empirical approach of the social sciences has limited application, is that to explain how persons behave requires something different from the application of the lawlike universal or probabilistic generalizations that result (or purportedly result) from studies carried out using “gold standard” research designs. Consider an example that features prominently in the philosophical literature on human action—my raising my hand. An appropriate description of what I am doing would require reference to my intentions, which are not open to direct observation. The hand raised could indicate my seeking attention, stretching to relieve the tiredness in my arms, or signaling to start a revolution. But even when the intention has been deciphered, there may be significantly different understandings of the motive for my acting in the intended way. Seeking attention might be explained by my wish to annoy, by my need to go to the men’s room, or by the wish to draw attention to myself. Furthermore, irrespective of intention or motive, my response to a situation is shaped by my understanding (which of course might be a misunderstanding) of the situation that I am in—by the concepts and beliefs through which the events are interpreted. Therefore, to explain human activity requires reference to intentions, motives, and personal understandings of the situation—it is a matter of getting on the inside of another’s mind. In short, this type of work must be done using qualitative, interpretive methods, which are often treated with suspicion, if not disdain, by the supporters of randomized controlled experiments.

A further complexity is that one needs to know or to understand the social rules whereby that gesture, signal, or request is to be understood by those to whom it is directed. Each of us lives and works within a social framework of shared symbols, including but going beyond language. This might be referred to as the *culture* of society more generally or of a particular group within the larger society. A gesture or an expression has meaning within a network of social rules. The researcher studying a particular ethnic group, for example, needs to be able to understand what is observed from within the group’s distinctive cultural frame of reference.

But it becomes even more complicated when one is trying to understand the interactions between teacher and pupil, or between government pronouncements and teachers’ response to those pronouncements. As requirements are passed down and across the many people involved, so the original message is sieved through the prior understandings of the recipients. It is never a straightforward transmission of understanding. Hence, unlike in the physical sciences (and in the social sciences that adopt the same view about the accumulation of knowledge), it is impossible to predict with certainty the consequences of a particular policy intervention, however well-founded in research it may seem. A good example would be government policy and subsequent practice for the raising of standards in schools. Once the learners are aware of the reason for the policy, they are in a position to support or subvert it if they so desire—perhaps they will decide not to work hard simply in order to pass the tests; teachers might decide not to work overtime in order to accomplish the goals that have been proscribed, or perhaps some will be motivated to work harder! Changed consciousness of the learners or teachers, and the subsequent effects, could not be anticipated in the government’s policy, however research based that policy was.

Where the interacting elements have different understandings and values, the full impact of such interactions cannot be predicted accurately. They require a more complicated, logically different mode of understanding from that which is required for understanding the physical universe or for understanding social and personal behavior in a scientific and empirical manner that does not take account of meanings, intentions, and cultural contexts. It is unavoidable that educational research must embrace this personal world—the world of human interactions where explanations need to get at the different intentions, motives, social expectations, and

understandings that underpin those behaviors and shape the interactions between pupils and teachers, pupils and pupils, and teachers and teachers.

A word of caution, however, is necessary. As the philosopher Peter Winch argued years ago, the personal differences in understanding and motivation, even where research is conducted into societies very different from one's own, are not as such entirely closed to the possibility of being understood. They are not beyond the penetration of the outsider. For, in spite of those differences, we share a common form of *human* life; we can understand what it means to act out of anger, to feel hurt when insulted, to feel despondent in failure, to seek affection, and to aspire to a more fulfilling life. There is much in our common humanity that enables us to come to understand other people and other social groups from their distinctive perspectives, and thereby to make some generalizations, even if these have to be very tentative.

Education and the Pursuit of What Is Worthwhile

The account so far has drawn a line between educational research in terms of understanding persons (which needs to take into account the distinctive features of what it means to be, and to understand, persons) and the tradition of empirical research that developed in the physical sciences and is followed in much of social science. This latter tradition could not in itself be considered as educational research, though it may say many things that are relevant to educational research and to educational practice.

However, more is needed to explain why the research seeking to explain (and help promote) human behavior should be seen as *educational*. And, of course, the central question here is “what does one mean by saying that a person is *educated*?”

The dominant figure in analytic philosophy of education in the latter half of the 20th century, Richard Peters, in analyzing the concept of education, likened it to the concept of reform (Peters, 1965). To refer to a reformed person is to indicate that the person has changed for the better—it is an evaluative term. The term *education*, is, like *reform*, an evaluative term, even though there is the purely descriptive derivative (as in “where did you receive your education?”). But even in such cases, one might well rejoin, “It was not an education, really—too much learning formulae without understanding.” What is evaluative about education is the central aim it possesses, namely, to help people become more

fully persons—to develop those distinctively human qualities and capacities that constitute “being a person.” Very briefly, these are the capacity to understand the physical and social worlds they inhabit; the practical capabilities by which they can make, create, and act intelligently; the development of moral and aesthetic sensibilities; and the recognition of the need for community and civic responsibility. The teacher's job, in fulfilling that aim, is to draw on that “inheritance of feelings, emotions, images, visions, thoughts, beliefs, ideas, understandings,” of which Michael Oakeshott (1967, p. 157) speaks, which are embedded in the different subjects and practices taught in schools, and through which those distinctively human capacities might be developed. To educate, therefore, is to mediate what Oakeshott refers to elsewhere (Oakeshott, 1972) as the “conversation between the generations”—the voice of poetry, the voice of science, and the voice of history. One aims, through these *educational* tasks, to develop understanding of the world one inhabits, to act intelligently and humanely within it, and to contribute positively to the wider community one is part of.

Educational research, therefore, is the systematic study of how teachers might achieve the aims embodying these values. But such systematic study cannot be like the studies found in the social sciences, even though the teachers in their deliberations might and should take into account what the social sciences have to say in general terms about such things as learning, the conditions for successful learning, and the economic and social contexts of the lives of young people. What is distinctive of education are the connections it makes between the cultural inheritance, on the one hand, and the minds of the learners and the different ways in which they understand and appreciate, on the other. The teacher is dealing with *persons* whose minds and values are already shaped by background, local culture, and prior experience. To bridge the two is no easy matter and requires careful research of a distinctive kind. This ethical context of educational research is too often neglected, thereby raising questions about the educational relevance of research that is deemed educational and that profoundly affects practice.

Educational Research and the Improvement of Practice

Research is, as has already been argued, the systematic pursuit of knowledge. But there is a need to distinguish theoretical and practical knowledge

(“knowing that” and “knowing how”). Theoretical knowledge is propositional and, systematically pursued, is accumulated into bodies of knowledge—the very thing that educational research is often accused of failing to do. But practical knowledge, though doubtless aided by such theoretical knowledge, cannot be logically reduced to it. I know how to drive a car, but I could not reduce that “knowing how” to a limited set of propositions. A good teacher, knowing and loving her subject, desiring to convey that knowledge and love to her learners, and responding in her teaching to the differences of understanding of her pupils, has the pedagogical know-how to do so without being able to give an exhaustive propositional account of her practice. No general formula would enable her to do so. The interactions with, and between, so many learners require differences of approach, careful diagnoses of the inclinations and modes of thinking of the different learners, and constant experimenting with methods of communicating the concepts and ideas. There is no simple line leading from the edicts issuing from universalized research conclusions to predicted outcomes of the learner. The art and the skill of the good teacher lie in being able to bridge the gap between the subject being taught and the minds of the learners.

Teaching therefore is a practical activity. But here we need to distinguish between practical activities that are a means to an end (and where the end is only contingently related to the end to be achieved) and those in which the end is embedded in the practice. In the former case, the end (e.g., scoring high in a test) can be shown to be achieved by certain practices (e.g., learning by heart certain formulae). But in the latter case, the end (the values that are picked out by the educational aims) is intrinsically related to the means through which the valued aims are implemented. The idea of an educated person is embedded in the very act of teaching—the choice of subject matter, the mode of engagement between teacher and learner, and how the work is assessed. Educational research, therefore, is the systematic exploration of how the teacher might be able to pursue those values (greater understanding, more intelligent practice, moral sensibility, and sense of community) with these learners. Central to educational research, therefore, is classroom research.

There is one particular difficulty in so concluding. Educational research, so described, is concerned with the implementation of values—what counts as an educated person. Inevitably, there are differences among teachers, even within the broad account that

has been given of educational aims. That is why some would disagree with so-called educational research as having anything to do with education. It bears no relation to what constitutes nurturing the *educated person*. There is, for example, research by publishers on successful ways for improving test scores, such research lying behind the very profitable textbook industry. But this cannot be considered as *educational* research unless one sees getting high scores in itself—by whatever means—as part of the conception of being educated.

This is most important in thinking about what is distinctively educational research. We have seen, on the one hand, how engaging thoughtfully in education requires addressing the aims of education (*What counts as an educated person in this day and age?*)—essentially moral considerations. We have seen, too, how policymakers and teachers need to take into account what social scientists may say through the various forms of empirical research that bear on the attempts to answer that question in this context and with these learners. But reconciling and integrating these different considerations requires systematic and critical deliberation. Such critical and systematic deliberation is at the heart of educational research, and for that reason, the teacher has to be seen as a researcher in the following sense.

The teacher is trying to realize in practice certain educational goals. These goals embody the educational values to which he or she is committed. The reflective teacher will constantly try to articulate these goals in the context of his or her practice. And, no doubt in light of what others say, that which the teachers see to be of educational value for the learners in his or her care will evolve through criticism. Furthermore, in implementing those educational aims, the deliberations of the reflective teacher will take into account what researchers (especially the social scientists) have said—not slavishly because, as argued above, what is generally applicable may not be so for these children in this situation. For example, generalizations about the benefits of the phonic approach to the teaching of reading might not apply to children who are hearing impaired.

All of this applies to the reflective teacher, which however is not quite the same as the teacher *as researcher*—but is a precursor. What turns reflection into research are as follows:

- Clarifying as precisely as possible the aims of educating these learners—the knowledge and practical capabilities that are valued, the issues

of social concern that impact on them, the sense of personal worth that each is striving to acquire

- Gathering evidence which would support the claim that such aims have been implemented—or not, in which case, new approaches have to be found, tested, and refined in light of further experience. Part of that “refining” would lie in openness to criticism from other teachers and even from the students themselves who can provide input about the materials they have been working with and their classroom experiences.

Much has been written on the systematic way in which such evidence might be gathered, refined, and applied. The essence of the research, therefore, lies in the clarity of the *thesis* (the claim being made), the evidence which is relevant to challenging that claim, and the openness to critical scrutiny of the thesis and of the evidence provided. For this to happen, teachers within or across schools need to become supportive communities of researchers. Knowledge grows through criticism, and so, one needs to create the sort of communities where criticism can flourish—where the “thesis” can be tested, hopefully survive, or (where that is not the case) be refined. This is important because the natural human instinct is to avoid criticism and to avoid exposure to any evidence that makes one question what one believes to work.

The Role of Universities in Educational Research

Where are the universities in all this? The centrality of the practitioners to research into the improvement of practice requires participation in a critical tradition—a tradition that draws on the wisdom of the past, engages philosophically with the complex issues concerning knowledge in its different forms and the ethical foundation of the aims adopted, retains impartiality in the face of political pressure, and shows the significance of the findings of the social sciences to the particular deliberations of the school and the teacher. But that partnership between university and school—between the custodians of that critical tradition and the deliberations and pedagogical skills of the teacher—although central to educational research, is unlikely to produce the “big research” modeled on the social sciences or the major publications in the highly cited journals. But as “big research” and publications become increasingly the key requirement to university

managers, educational research and, therefore, education departments might well become a thing of the past.

Richard Pring

See also Causation; Coleman Report; Educational Research, Critiques of; Evidence-Based Policy and Practice; Peters, R. S.; Postpositivism; Pure and Applied Research and *Pasteur's Quadrant*; Qualitative Versus Quantitative Methods and Beyond

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PHRONESIS (PRACTICAL REASON)

Naturalized recently into English, *phronesis* (φρόνησις) is a Greek term the meaning of which was classically articulated in the ethics of Aristotle (Book VI of the *Nicomachean Ethics*). There, it connoted practical wisdom, or the capability to make good judgments in action-situations by discerning, and being disposed to do, what is required by those virtues of character (e.g., justice, temperance, courage, patience, and honesty) the exercise of which realizes human flourishing (*eudaimonia*). Phronesis was itself categorized by Aristotle as an intellectual virtue, that is to say, a cultivated capacity for a kind of truth-disclosing knowing, a kind that he carefully distinguished from other kinds of such knowing on the basis of differences in the makeup of the object domains to which each kind was directed.

In particular, Aristotle distinguished phronesis as action guiding, from science (*episteme*), which was directed to objects whose invariability allowed for necessary knowledge (e.g., in mathematics or astronomy), and from craft knowledge (*techne*), which directed the fabrication of durable products through the imposition of pre-apprehended forms on suitably receptive materials (e.g., in building or sculpture). In contrast, the scene of action was fluctuating and open textured, requiring more intricate modes of engagement and a kind of knowing more seamlessly related to the agent's experience and character.

Phronesis has been retrieved in recent philosophy as part of a significant renewal of interest in Aristotle's ethics, for example, in the emergence of "virtue ethics" and "virtue epistemology" and, more broadly, in critiques of positivistic conceptions of knowledge and technocratic conceptions of action. Such critique has resonated with many theorists keen to resist similar conceptions of how practice is to be conceptualized and conducted in education, health care, and other "helping professions."

Among the features of phronesis that have proved attractive to these theorists are its nonconfinement to generalized propositional knowledge and its related ability to engage in the kind of deliberative process that can yield concrete, context-sensitive judgments. Its key role is to mediate between the universal and the particular, a role that requires perceptiveness in the reading of particular situations as much as flexibility in the mode of possessing and being informed by knowledge of universals. (This flexibility is nicely captured in Aristotle's approving reference to the measuring rule used by builders at Lesbos, which, being made of lead, was pliable enough to measure the surfaces of irregularly shaped stones—unlike, for example, a wooden rule; see *Nicomachean Ethics*, Book V, chap. 10).

The retrieval of "phronesis" has contributed significantly to resistance to the sway of "technical rationality" in research and practice in education and other cognate disciplines. Technical rationality here connotes an approach to knowledge and action that prioritizes detachment of the agent, strictly controlled operations, transparent procedures, replicable findings, and the separation of facts, which fall within the ambit of knowledge, from values, which do *not*—though they may, by some nonrational route, exert an influence on action. The claim pressed against technical rationality, and what is seen as its increasing and unjustified hegemony, is

that when imported into properly practical domains, it badly distorts them—and so needs to be complemented if not supplanted by other, more hermeneutically sensitive modes of knowledge and inquiry. At issue is the quintessentially Aristotelian tenet that the subject matter in any domain should determine the kind of knowledge that is appropriate to it and, accordingly, that the fabric of human action and interaction, being essentially different from the fabric of the material world, requires its own irreducibly practical (as distinct from technical) mode of rationality—one in which phronesis has exemplary significance.

This exemplarity is reflected in three distinct concerns that have been manifest in educational theory over the past few decades. First, and closest to Aristotle's own use of the term, approaches in *ethical and civic education* have stressed that, in being habituated into a range of character virtues, students need to acquire phronesis as the resourcefulness of mind and character that will enable them to appreciate and accomplish what is required by these virtues, singly or in combination, in the great variety of circumstances that may call for their exercise. Second, and by an extrapolation not to be found in Aristotle's own writings, phronesis has been invoked in clarifying the kind of knowing-in-action that informs the *pedagogy* of accomplished teachers reflectively attuned both to the educational goals at stake in their teaching and to the multiplicity of contextual factors that may modify or nuance the attainment of these goals in any particular teaching situation. Third, phronesis has featured in methodological debates about *modes of inquiry* that would illuminate or explain what goes on in the field of education. Here, linked more directly with the critiques of positivism already mentioned, phronesis has been an important reference point for approaches that emphasize the need for interpretative flair and finely textured judgment on the part of researchers seeking to understand the dynamism, complexity, and multilayered nature of pedagogical practice—and constructively to redirect it in the many different institutional settings in which it is embedded.

The first concern above reflects the influence of "virtue ethics" in moral and political education over the past two decades. It has been an important counterthrust to the earlier dominance of Kohlbergian (or broadly Kantian) approaches, serving to rebut the conception of education in the virtues as a mechanical inculcation of low-level responses. To

assign an irreplaceable role to *phronesis* is to insist on reasonableness as a component of virtues—albeit this component itself is not to be acquired independently of, or as external to, the process of character formation (with its reordering of affective life). This concern has been articulated mainly by philosophers of education in the analytical tradition, for example, David Carr and Jan Steutel, who find sufficient warrant for it in a straight reading of Aristotle's own texts. The second and third concerns differ from it in that they have arisen on a broader front, addressing not only education but also comparable domains such as medical practice, public policy, and law; and here, attempts have been made to integrate core insights of Aristotle's analysis with perspectives developed in more recent philosophy. An example of the second is Joseph Dunne's (1993) attempt to reread Aristotle mainly in light of a differentiated appropriation of H.-G. Gadamer's hermeneutics and Jürgen Habermas's critical theory, in outlining a conception of the kind of practitioner's knowledge required in these domains. An example of the third is Bent Flyvbjerg's combination of Aristotle on situated deliberation with Michel Foucault on power, in outlining an alternative kind of social science research that, avowedly committed to common goods and expressly reflecting on its own complex links with policy and practice, unabashedly conceives its role as socially transformative (Flyvbjerg, Landman, & Schram, 2012).

As part of what is called here its recent “retrieval,” appeals to *phronesis* have multiplied throughout education theory—in writings, for example, on pedagogy and assessment in a great many curricular areas, from mathematics to music, and on professional education, not only of teachers but also of, for example, psychotherapists, nurses, pastors, lawyers, managers, and designers.

The value of the undoubted impact of *phronesis* and the legitimacy of recent interpretations of it have not, of course, been uncontested. Criticism has come mainly from defenders of more established conceptions of the relationship between practice and theory—and especially from those committed to technicist conceptions of practice (with the possibility of exhaustive codification of action-guiding, domain-relevant rules) or nomological conceptions of theory (in which exception-less generalizations hold sway). Critics accuse *phronesis*—with the discretion that it accords to the deliberation and judgment of situated agents—of an unprincipled particularism that undermines the status of universals,

thereby misconceiving the nature, and emasculating the role, of theory. Such critics include analytical philosophers of education who dispute its Aristotelian credentials, though the large body of commentary on the *Ethics* over recent decades includes decidedly particularist readings of Aristotle's analysis of ethical deliberation by prominent analytical philosophers.

Joseph Dunne

See also Aristotle; Critical Theory; Hermeneutics; Kant, Immanuel; Moral Development: Lawrence Kohlberg and Carol Gilligan; Positivism; Rationality and Its Cultivation; Virtue Ethics

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PIAGET, JEAN

This entry is focused on the main intertwined philosophical and psychological underpinnings of the views of Jean Piaget (1896–1980) on education. It relates these to his theory of psychological development and also points to some misinterpretations of Piaget's views.

Introduction

Education was not the central interest in Piaget's research program. He refused to be considered an educationist, and what he wrote on education represents only a 300th part of his life's work, which totals about 35,000 pages.

Piaget considered himself an epistemologist or a theorist of scientific knowledge. Going further than other epistemologists, who only reflect philosophically on scientific knowledge, Piaget appealed to developmental psychology to investigate and “test” what he called the two great mysteries of knowledge:

1. How do new forms of knowledge appear and develop in the course of ontogenesis or the individual's development? For example, how does a

youngster come to acquire concrete operational thinking (e.g., come to understand that the number of elements in a set remains the same regardless of their spatial configuration in the set—number conservation)?

2. How do such forms of knowledge come to be regarded as necessary? That is, how do they come to be understood not only as actually being the case (i.e., true knowledge) but also as necessarily having to be the case (i.e., necessary knowledge)? (The knowledge involved in the example above is not only true but also necessary.)

These two concerns gave rise to a complex theory of the subject's psychological development that has been highly influential in shaping theoretical debate and empirical research both in developmental psychology and in educational thought. Every textbook on educational psychology and developmental psychology published today contains a discussion of Piaget's theory of psychological development.

Development Through Stages

In brief, Piaget's (1960, 1970a) theory holds that as time goes by, the individual's cognitive apparatus, specifically the logical structures—which constitute a framework shaping the individual's interactions with the world—becomes more adequate for dealing with the complexities of experience. It can be noted here that there is more than a passing similarity to the categories of understanding postulated by Immanuel Kant, which serve a similar function but with the important difference that the Kantian categories do not develop over time in the individual but presumably are hardwired or inborn.

The developmental stages that Piaget (1960) identified are characterized by several criteria. They represent new and qualitatively distinct forms of knowing; they are integrative in that a given stage always integrates its predecessor; they develop according to an invariant sequence in the sense that the lower stages necessarily occur before the higher ones; they are hierarchical—that is, a given stage has something more and coordinates more dimensions or perspectives than the preceding one; they are structural because they are organized or structured by what Piaget called a structure-of-the-whole (similar ways of solving intellectual tasks, e.g., number conservation or class inclusion, whose content is different and that are organized together cognitively);

finally, they involve a phase of preparation, when the subject is passing from a lower stage to a higher one, and a phase of consolidation, when a given stage is well established in the individual's mind.

Cognitive development, then, proceeds through four stages. At the sensorimotor stage (from birth to two years approximately), children relate to others and the world through senses and movement and are capable of what Piaget called practical intelligence; for example, at the end of this stage, they can look for a desired object that vanished from their vision because it was hidden under several covers (i.e., object permanence).

At the preoperational stage (from roughly two to seven years), children are capable of mental actions, for example, playing with a doll as if it were a dog (i.e., pretend or symbolic play), but not capable, for instance, of understanding that a rose is a rose but also a flower. Thus, children at this stage are not yet capable of what Piaget called operations, or actions that are mental, reversible, and governed by rules of transformation—for instance, children are not yet able to understand that in a set of 10 flowers with eight roses and two daffodils, there are more flowers than there are roses because daffodils are flowers too (i.e., class inclusion), or that the operation $2 + 8 = 10$ can be nullified through an inverse operation, $10 - 8 = 2$ (i.e., number conservation). As preoperational children are figurative or perception oriented, when asked in this class inclusion task if there are more flowers or roses, they answer that there are more roses, because there are a lot of roses and only a few daffodils. As roses and daffodils can be seen, which is not the case with the abstract class "flowers," preoperational children compare roses with daffodils instead of thinking of both as subclasses of a broad class or concept—flowers.

At the concrete operational stage (from ages 7–12 on average), the child is capable of operating or thinking logically, but always with a basis in concrete or material things that can be subject to seriation, class inclusion, conservation, transitivity, and so forth. A child who is capable of operating in the intellectual domain is also capable of cooperating with others in the social domain and of disputing or argumentation in the verbal domain. This solidarity among operation, cooperation, and argumentation is a token of Piaget's structural perspective, which lies at the heart of his epistemology and developmental psychology, and has implications for his views on education.

At the formal operational stage (from ages 12/13 to 16, on average), individuals are capable of abstract reasoning; for example, they can understand the following: “If p, then q; it is not the case that p, therefore nothing can be concluded about q.”

For Piaget, the individual’s progression through these cognitive stages implies a process of functional continuity in that at all stages individuals function intellectually in the same way: They assimilate the unknown to their cognitive structures or forms of knowing, and the individuals/learners enrich these structures as they accommodate them to the novelties coming from outside. This process of a continuous interaction between assimilation and accommodation, which Piaget called equilibration, gives rise to an ever-increasing active adaptation of the individual to his or her physical and social environment, that is, to more advanced cognitive stages and their underlying cognitive structures. It is in this sense that Piaget speaks of structural discontinuity as development goes on.

This complex and rather abstract theory has been misunderstood by many psychologists (see Lourenço & Machado, 1996). The idea that age is for Piaget a criterion rather than an indicator of development is just one example. Although Piaget has associated his stages with certain ages, age is not for him a criterion of development. Contrary claims notwithstanding, the idea that a younger child may be more cognitively or morally advanced than an older one does not contradict Piaget, simply because age is an indicator and not a criterion of development. This is one of the reasons why Piaget was more interested in the sequence of transformations than the chronology of acquisitions.

Education Is a Scientifically Oriented Process

Although stating that teaching did not interest him, Piaget wrote a great deal on education, mainly while he was the director of the international bureau of education (1929–1967). His two main books on education, *To Understand Is to Invent: The Future of Education* (1973) and *Science of Education and the Psychology of the Child* (1970b), are pervaded by the idea that only education is capable of saving societies from possible collapse, whether violent or gradual.

For Piaget, education should be oriented by a scientific theory of the individual’s psychological development. This means that the teacher not

only should know his or her subject of specialization (Piaget argued for a college or university background even for preschool teachers) but also be knowledgeable of the individual’s psychological development. If the former is not the case, the teacher is no teacher at all. If the latter is not the case, the teacher risks teaching to his or her pupils material that is much above or below their cognitive stage, and hence material that is ill-tuned to their cognitive ability to understand.

Consider the case in which a teacher intends to teach a concrete operational pupil the idea of proportionality, which requires formal operational competencies. As such an idea is much above the concrete operational stage, the risk is that the pupil will memorize rather than understand the material that is being taught. In short, there is neither significant teaching nor significant learning because no assimilation/accommodation is taking place.

It is worth mentioning, however, that Piaget admitted and valued what he called operational learning (see Inhelder, Sinclair, & Bovet, 1974), a form of learning wherein by interacting with more competent children, a child comes to understand some problems or situations that are not much above his or her own cognitive stage. Contrary claims notwithstanding, this possibility shows that, to an extent, Piaget is not at complete variance with Jerome Bruner’s (1960) idea that we can teach effectively in an intellectually honest manner any subject to any child at any stage of development and also with Lev Vygotsky’s (1978) idea of the zone of proximal development. (This latter is the distance between the child’s actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.)

Consider now the case wherein a teacher intends, for instance, to teach a formal operational student the idea of number conservation, which requires only concrete operational competencies. Given that such an idea is much below the cognitive stage of the student, the student is not interested in what is supposed to be taught because he or she knows the point in advance. As a result, there is nothing to be assimilated to, or incorporated into, the student’s cognitive structures—there is nothing to which the student has to accommodate his or her existing cognitive structures. Therefore, no significant teaching or learning occurs.

These two examples show that Piaget's views on education—mainly his conceptualization of the main goal of education being the creation of individuals who are creative, inventive, and discoverers who are not limited to simply repeating what other generations have done—is rooted in his scientific theory of psychological development. This is also true of the active methods he advocated for education. The teacher is more a mentor and an organizer of learning situations, someone who helps students actively rediscover or reconstruct every truth to be learned, than a simple transmitter of knowledge (see more below).

Education Is a Process Oriented to Moral and Intellectual Autonomy

As noted above, for Piaget, the goal of intellectual education is to develop intelligence rather than to promote rote learning, and to give rise to inventors rather than to conformist people. The goal of moral education is to develop an autonomous morality, a morality oriented to equality, cooperation, and mutual respect, not a heteronomous morality, a morality based on obedience, coercion, and unilateral respect (Piaget, 1932).

Thus, for Piaget, education aims at forming autonomous and critical individuals, not individuals who are oriented to an uncritical acceptance of dogmas, established truths, or truths imposed from outside.

This objective stands in sharp contrast with the conservative goal of traditional education, which is to inculcate and transmit to students the existing knowledge and values from one generation to another. It is worth stressing here that individuals who do not accept dogmas and truths imposed from without are autonomous individuals in intellectual and moral terms, for they are more self-governed than dependent on established moral norms or intellectual truths.

The following are three common misunderstandings of Piaget's views on education as a process oriented to the individual's autonomy:

1. Piaget equates autonomy with total freedom.
2. He sees intellectual and moral autonomy as being synonymous with individualism.
3. He considers heteronomous morality and autonomous morality as stages of moral development.

For Piaget, far from implying total freedom, autonomy requires one to be subject to prescriptive and reversible moral principles, such as the golden rule in the moral domain (Do not do unto others what you would not like others to do unto you), or to be subject to reason more than to perception while solving cognitive tasks. When children think that the amount of elements in a set depends on their spatial arrangement in the set, they are being figurative, preoperational, or perceptually oriented—and, so to speak, intellectually heteronomous. When children understand that such an amount is independent of its spatial configuration, they are being operative, operational, and reason oriented—and, so to say, intellectually autonomous (Piaget, 1966).

Autonomy for Piaget is not tantamount to individualism but, rather, involves exchanging points of view and coordinating different perspectives. Whereas a heteronomous moral child judges a moral transgression (e.g., stealing) as a function of the physical outcomes it involves, an autonomous moral child takes also into account the intentions underlying the respective transgression. In the same vein, an operational child who in a liquid conservation task integrates the tallness and the width of a glass containing water is more advanced and intellectually autonomous than a preoperational child who attends only to one of these two dimensions. As a result, the operational, but not the preoperational, child understands liquid conservation, that is, that the amount of water in a glass remains the same regardless of the size of the glass.

This means that those who fault Piaget for being oriented to individualism in his views on development and education are not aware that on several occasions he has argued as follows:

1. Individuals would not come to organize their operations in a coherent whole if they did not engage in thought exchanges and cooperation with others.
2. There are neither individuals as such nor society as such, there are just interindividual relations.
3. The active school presupposes alternating between individual work and work in groups.
4. Collective living has been shown to be essential to the full development of one's personality.

Contrary views notwithstanding, Piaget never considered heteronomous morality and autonomous morality as successive stages of moral development

but as moral attitudes that may coexist at the same age in the same child.

Education Is an Interactionist Process

For Piaget, learning has two distinct meanings. In its strict sense, it means all knowledge and values acquired due to specific, discrete experiences; a child who learns that a sphere is different from a circumference is a case in point. In a broader sense, learning is a process equivalent to development, and it involves a continuous interaction between the individual and his or her physical and social environment. For Piaget (1964), learning in its developmental sense depends not only on the three traditional factors he called the “American question” (i.e., maturation, physical experience, and social transmission, including language) but also, and mainly, on the process he calls equilibration or self-regulation. (Equilibration is a balance between assimilation—which involves dealing with an environmental stimulus using the present cognitive structures—and accommodation, in which an environmental factor stimulates a change in the existing cognitive structures. This dual process leads to an ever-increasing active adaptation to the environment.)

Piaget’s interactionist/relational perspective on development and education is documented in the following ideas:

1. Knowledge and education are the result of a continuous interaction between assimilation and accommodation.
2. Individuals develop and learn as they interact with their physical and social milieus.
3. Equilibration incorporates and interrelates the three aforementioned traditional factors of the individual’s development.
4. The active methods are neither entirely teacher centered nor entirely child centered but, rather, consist in a teacher organizing classroom situations and involving students in experimentation.
5. Individuals can achieve their inventions and intellectual constructions only to the extent that they are involved in collective interactions.
6. The most appropriate method to interview children is the Piagetian (1929) clinical method, which consists mainly of a verbal exchange/interaction between the interviewer and the interviewee to grasp the interviewee’s own way of

thinking (these interviews are not designed to teach the interviewee the correct answers to the interviewer’s questions).

Education Is a Constructivist Process

Constructivism has a variety of meanings, the discussion of which is beyond the scope of this entry. However, the idea that Piaget embraced a constructivist conception of development and education is accepted by all psychologists and educators. For Piaget, to embrace a constructivist stance implies adopting the following three intertwined ideas:

1. The importance of action, be it sensorimotor (e.g., to hide an object under a blanket) or mental (e.g., to understand that the arithmetic operation of multiplication can be undone by the arithmetic operation of division: $5 \times 4 = 20$; $20/4 = 5$), for the individual’s development and education is paramount.
2. Although maturation, physical experience, and social experience play a role in individuals’ development and education, it is their actions on objects that are the ultimate factors in their development and education.
3. Knowledge is not a copy of reality. To know an object or an event is not simply to look at it and make a mental copy of it—to know an object is to act on it, to transform the object, and to understand the process of this transformation (Piaget, 1964).

Piaget’s ideas that (a) a truth learned is only a half-truth because to understand is to discover, or reconstruct by rediscovery; (b) the most appropriate methods to use in schools are the active methods, for they give broad scope to spontaneous research on the part of the individual and require that every new truth to be learned is rediscovered or at least reconstructed by the students, not simply imparted to them; and (c) the main goal of education is to give rise to inventors and creators, not to conformist individuals, are clear expressions of his constructivist conception of education.

However, Piaget’s constructivist conception of education also has given rise to three common misunderstandings:

1. The teacher has no role in students’ education, and their success depends on leaving them entirely free to work or play as they will.

2. Piaget's emphasis on the subject's actions and coordination of actions as being the main factors responsible for his or her development and education overlooks the role of the three aforementioned traditional factors.
3. Because Piaget subordinates learning to development, education cannot accelerate the individual's development.

With respect to the first misunderstanding, suffice it to say that for Piaget what is desirable is that the teacher ceases to be a lecturer and is instead a mentor stimulating the students' initiative and research. As for the second misunderstanding, Piaget never denied the role of maturation, physical experience, and social transmission in the individual's development and education. However, for him, a social transmission or stimulus is only significant to the extent that there is a cognitive structure or level of development that allows its assimilation.

Regarding the third misunderstanding, Piaget accepted the idea that, to an extent, it is possible to accelerate the subject's operational competencies, such as class inclusion and transitivity. Although he accepted this possibility, Piaget (1964, 1973) had the following to ask:

1. Is such acceleration beneficial or, rather, detrimental to the child's development and education? For Piaget, whenever one prematurely teaches a given child something that he could have discovered by himself, that child remains deprived of complete understanding.
2. Is this learning through acceleration lasting?
3. How much generalization is possible?
4. What was the subject's operational level or stage of development before a given learning experience, and what more complex structures has this learning succeeded in achieving?

In short, for Piaget, we must look at each specific learning experience from the viewpoint of what spontaneous operations were present at the outset and what operational level has been achieved after the learning experience.

This entry's focus on the main psychological and philosophical underpinnings of Piaget's views on education should have revealed the extent to which he was ahead of his time.

Orlando Lourenço

See also Adolescent Development; Autonomy; Bruner, Jerome; Childhood, Concept of; Conceptual Change; Dewey, John; Moral Development; Lawrence Kohlberg and Carol Gilligan; Radical Constructivism: Ernst von Glasersfeld; Vygotsky, Lev

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PLATO

Son of an aristocratic Athenian family, Plato (428–348 BCE), in his 20s, came into the circle of Socrates, who was to become the lasting influence on his philosophical thought. Following the execution of Socrates, Plato renounced the direct involvement in politics that was expected of youths of his social standing and turned to writing and education. His Academy (founded in Athens around 385 BCE) was one of the first Greek institutions of research and higher learning.

All of Plato's writings are in the form of dialogues, except for the *Seventh Letter*, possibly the only authentic letter among those attributed to him. The leader in most of the dialogues is Socrates, and Plato never speaks in his own person or mentions himself, except twice in the *Apology* and once in *Phaedo*. The chronology of the dialogues is uncertain beyond a very general distinction between the early, middle, and late dialogues, with blurred borders between those periods, the details of which have been in great dispute over the past two centuries.

Very little is known about Socrates. He was accused of impiety and of corrupting the youth and was put to death by poison in 399 BCE. In this entry, "Socrates" refers to the Platonic Socrates, as Plato understood and presented him in the dialogues—a complex, equivocal, and multilayered figure, never to be taken simply as Plato's spokesman.

Plato's main concern in all his dialogues, even in those most logically or metaphysically oriented, was with ethics and education. He tried strenuously to oppose, on moral and epistemological grounds, both Protagorean relativism and the value-free education inspired by Gorgias. He saw education as promoting the health of the soul. But, for him, health is the embodiment of an ideal pattern not immediately given in experience. Thus, no true education can be based on naturalistic or positivistic premises.

Lacking the modern, biblically inspired, conception of a source of values absolute yet not natural, Plato was faced with the stark choice between naturalistic and conventional ethics, both unacceptable to him. Ethical standards must be absolute and imposed on the natural world, not derived from it. He was then bound to put his ethical standards as real yet outside the empirical world. The whole of Plato's philosophical project is a consistent effort to give his Socrates's moral and educational intuitions the metaphysical basis they lacked.

In all of Plato's dialogues, Socrates (or, in a few cases, his stand-in) starts from the opinions of his interlocutor at that moment and tries to disabuse him of the false or half-understood ones and draw him, not always successfully, toward what he, Socrates, considers the truth. Exceptions are dialogues such as the *Apology*, Plato's version of Socrates's defense speeches; *Timaeus*, which presents a physical and hypothetical cosmological system; and *Laws*, which lays down the law for a prospective state—none of them amenable to dialectical treatment.

In many dialogues—such as *Laches*, on courage; *Euthyphro*, on piety; *Meno*, on the teachability of virtue; and *Theaetetus*, on the nature of knowledge; and also, to a lesser extent, in more "constructive" dialogues, such as the *Republic* or the *Sophist*—the dialogical tool of Socrates is the elenchus, the effort by means of questions to bring his interlocutor to realize the inconsistency of his initial position, to achieve the "cleansing of his soul" from its contradictions. Intellectual as it may be, the Socratic elenchus never loses its traditional emotional component. It has been said that Socrates, as a rule, does not refute abstract propositions, but with his questions, he confronts his interlocutor in all that person's complexity—intellectual, emotional, and social. For Socrates, the existential aspect of education, the total involvement of the interlocutor, and his personal commitment to his responses are of maximal importance. He repeatedly asks his interlocutor to answer what he truly thinks, for there is no educational value in a correct answer that does not carry the answerer's conviction.

But the elenchus only forces the respondent to confront the contradictions in his soul and his unreasoned opinions, true or false, without providing him with an alternative. Thus, the Socratic elenchus leads to *aporia*, a "dead end," where the respondent is meant to face his ignorance (but does not always admit it). This state of ignorance is beneficial, since it allows the search for truth, which had been prevented by the erroneous conviction of its being already in one's possession. Education is, indeed, clarification, but it is not "value clarification" in the modern sense.

Plato is profoundly distrustful of language (see, e.g., *Euthydemus*, *Cratylus*). Words can teach us only what we already know—and little else of any importance. His Socrates must use the same words as the common man—such as *courage*, *wisdom*, *utility*, or *success*—to say something totally new. Knowledge, as distinct from opinion, cannot be

handed down. Therefore, the Platonic Socrates is necessarily ironical. He will always ask, and refuse to answer. And when he does propose an answer, one can never be sure whether he really endorses it or merely puts it forward for consideration, often as a “red herring.” Socrates’s irony is “open.” It shows us what the answer is not; it never shows or implies what it is.

It disabuses the interlocutor from his wrong (in Socrates’s eye) or unreasoned opinions but cannot give him anything instead, or it would give him just another opinion, no better than his previous one (except, perhaps, for practical ends). The answer has to be left for the interlocutor to find out for himself, lest it be believed not out of personal conviction but out of respect for authority or mere convenience—an opinion like any other.

The central educational question in the 5th century BCE, as today, was whether human excellence, *arete* (often, somewhat misleadingly for modern ears, rendered as “virtue”), can be taught. Is there an art of good living? Can one teach how to reach *eudaimonia*, “happiness and success”? But *arete* cannot be a technique to be learned. Any technique is double-edged: The best doctor is also the best poisoner. *Arete*, however, cannot be misused and cannot be passed from teacher to pupil. The only knowledge thought by Plato’s Socrates to be of educational value is the knowledge of oneself. As he puts it in the *Apology*, conscious of the difficulty of its general acceptance, “The unexamined life is not worth living for man.” Only reflective intellectual effort has real moral worth.

Man’s fundamental capacity is reason, however encumbered and distorted it may be in most cases. This is why Plato sustained the impossibility of *akrasia*, “lack of control” (not quite the modern “weakness of the will”). Every human endeavor is basically rational. Man aims at what he considers the good. But he may be, and often is, misguided. If he knew the real good, he could not avoid pursuing it. Thus, if one can be ridden of one’s false opinions, one should by oneself be able to see the good and do it. (As the concept of a pure will is, by definition, irrational, it was inaccessible to Greek classical philosophy.)

It was Plato’s basic conviction that there is a real, not merely conventional or subjective, distinction between knowledge and opinion, as between good and bad. In *Gorgias*, he explains this distinction in terms of the difference between having been persuaded and having learned. One is *persuaded* when one accepts an opinion on extraneous grounds, such

as the authority or the rhetorical skill of the persuader, but one has *learned* when one is able to give the relevant reasons for the truth of what has been believed. Knowledge, in other words, is not just a higher degree of opinion. One may hold an opinion with as much conviction as if one knew it, but the degree of conviction does not turn it into knowledge. An opinion may have practical, instrumental value; but for Plato, the value of knowledge is primarily normative and moral in itself.

Education is the development of reason for its own sake. Yet, in Plato’s conception of reason, it is inseparable from emotion, even if not identical to it. Although natural to man, reason has to be carefully nurtured. Obviously, at least in the first stages of its development, and even much beyond that, reason must be reared by irrational means. Plato puts irrationality at the service of rationality. Education can operate only through psychological, empirical means. Its aim, however, is not empirical. That psychological and mental revolution requires an intellectual purgation to be achieved only by one’s own effort.

Knowledge involves the giving of reasons. But it is not enough that there be a reason; one has to perceive it as such. Yet every reason itself needs a reason. Thus, to avoid an infinite regress, an ultimate reason is needed, what Plato calls an unhypothetical beginning or principle. This principle, however, cannot, strictly speaking, be the first member of the series but a reason of another kind, not in need of any further reason. That is the idea of the Good, as Plato calls it.

Rational knowledge, not empirical information, already is in man, but it has to be awakened. This awakening of pure knowledge is likened by Plato to recollection (*anamnesis*). Truth is already known by the person, but in an indistinct manner. The act of recollection is not in producing the correct answer (often suggested by Socrates himself) but in finding out the reasons for it (see *Theaetetus* §160e), in transforming the mere opinion into reasoned knowledge. The content thus incorporated into the whole fabric of one’s beliefs is then not perceived as something new but as if it had been there all along, leading eventually to wisdom as fully integrated, synoptic knowledge.

The emotional and erotic aspect of education is stressed in the *Symposium*. Platonic reason is not light without heat. In the ascent toward the Beautiful in itself, the clearest insight into reality is also the height of the impassionate drive to achieve

it. Appetites are not blind but are confused perceptions of the same object of reason. Man's most basic drives are an obscure semiconsciousness of his true nature. Reason is not a sublimation of those drives; rather, these are a lower form of reason. This dialogue introduces an important element in Plato's philosophy of education. Here, Aristophanes portrays man as seeking his "other half," which he lacks. Socrates corrects Aristophanes in this way: Man is not incomplete; he is imperfect but perfectible. Education is the process of helping man achieve his perfection. This can be achieved only by a strenuous introspection, purely personal and yet universally valid. The most profound subjectivity is also the most complete objectivity.

Undoubtedly, however, the *Republic* stands as Plato's major work on education. The ostensive theme of the work is justice. Justice is attained when there is a proper hierarchy of elements in the soul, and in the city or state, under reason. And while justice is good for its consequences, primarily it is good in itself. The state (which Plato does not distinguish from society) is for the sake of education, not education for the sake of the state. In the first stage of the theoretical construction of the city, "the city of pigs," all of man's basic necessities are provided, and education is barely called for. But man is not satisfied with what that minimal society can provide. He needs art and luxury, and thus also poets and doctors—and education, which will eventually lead him to contemplation and to philosophy.

In Plato's state, there are three social divisions (not quite classes), which have different functions, coupled with the three functions ("parts") of the soul: (1) the philosophers (who govern the city in light of reason), (2) the auxiliaries (civil servants, primarily in charge of security, internal and external), and (3) the producers. The first two groups are referred to together as "guardians," and membership of them is not hereditary. Plato's city is a strict meritocracy, although he recognizes that the children of guardians are more likely to become guardians. Plato aimed at avoiding nepotism and also wished to dissociate financial status and will to power from actual power in the state. Guardians will have no family and no property and will be cared for by the state.

Plato conveys the philosophical basis for his views on education (particularly the education of guardians) not directly but via the use of three analogies; he then describes the actual educational process quite concretely. The complex triple analogy of the Sun, Line, and Cave in *Republic* vi–vii is used

because it is impossible to discuss the fundamental, intelligible reality—the Form of the Good—directly. So just as the sun makes physical objects observable and enables the eye to see, so also does the Form of the Good make the abstract objects of thought intelligible and enable the mind to attain knowledge. How the mind can be led to apprehend this Form (i.e., educated) is addressed in the allegory of the Cave. Chained in a cave, facing the back wall all of their lives, the prisoners naturally take as true reality the shadows cast on this wall from objects that are out of sight behind them. If a prisoner is released and has his vision turned toward the light—a painful process—he will be able to see the objects outside and realize that the shadows were but a pale representation of these. On returning to educate his fellow prisoners, his message will be met with incredulity. Later, Plato spells out in a more concrete way precisely what this difficult (if not painful) educational program needs to be to produce the rulers (the "guardians") of his Republic, who need to attain knowledge through their apprehending of the ultimate reality, the Good. (The analogy of the Line is more complex, and it attempts to make clear the distinction between the state of opinion or belief, which is all that can be attained of the physical world, and the state of knowledge—which is required of the guardians—which only can be attained with respect to the real, purely intelligible world of the Forms.) For Plato, then, education is not "putting vision into blind eyes" but "turning the eye of the soul" from the sensible to the intelligible; however, the eye cannot be turned without also turning the whole soul. There can be no purely intellectual education.

This long process of education toward reason and order begins before birth, through the regular movements of the pregnant mother. Plato also stresses the crucial educational role of myth and art; their power to influence character and action makes not only for their educational efficacy but also for their educational danger. Therefore, in the Platonic city, art, and especially poetry, will be subjected to censorship. Stories are an important tool for the formation of character, providing models for imitation. Indoctrination is a necessary stage in the development of reason. There is no education, from its early stages and much beyond, without some measure of indoctrination.

Early education also will include gymnastics for the body and music (including poetry) for the soul. All citizens will have reading and writing and some basic numeracy, to the measure of their abilities.

Those capable will continue in view of becoming guardians. (Thus, in the *Republic* and in *Laws*, all will have the same education according to their capacities.)

It is clear that a crucial element in the education of guardians is the study of mathematics. Plato's five mathematical sciences—arithmetic, geometry, stereometry, astronomy (kinematics), and music (acoustics)—direct the mind away from the specific phenomenon at hand to the underlying general structure, thus accustoming the mind to see the ideas or forms behind the particular cases. So, although all those mathematical sciences have practical applications, their real value lies not in these but in the understanding, not through the objects of the senses, and in the contemplation of order for its own sake that they foster.

In the concluding myth of the *Republic*, the souls in Hades are brought to choose their next life before drinking from the river of forgetfulness (the story alludes to Plato's view that knowing is recollection). The first soul to choose had lived a life of virtue in a well-governed city, but without philosophy. He chose "the greatest of tyrannies," and only after this choice, did he realize that he was destined to "eat his own children and suffer even worse evils." In other words, that soul was fortunate not to have been faced with a temptation greater than his fortitude. His life of unreflective virtue was an accident, for which he himself could not be held responsible. In a matter of overt behavior, his demotic virtue was indistinguishable for true *arete*. However, true *arete* is not in the overt action but in the nature of one's *ethos*.

In that myth, no one achieves true *arete*. In the eyes of Plato, no one could, except perhaps Socrates. When given the chance to change his life, in *Crito*, he refused, for the life he had lived was of his own choice and he did not regret it. *Arete* has no masters, and the god is not to blame. One is responsible for one's *ethos*. One cannot blame external circumstances, heredity, society, or bad luck for one's moral failures.

This helps explain why Plato is opposed to tragedy as an artistic or literary form, because tragedy presents an action deemed to be complete, and by its consequences, the agent thinks himself happy or miserable. But the action presented on stage is never complete without the *ethos*, prior to the action, by which true *eudaimonia*, happiness and success, is evaluated. Tragedy is morally incomplete and educationally dangerous.

Accordingly, *eudaimonia*, being an objective and not a subjective state of mind, is not a consequence

of one's actions or of external events but of one's *ethos*, one's attitude toward them. The aim of education for *eudaimonia* is to open the way for a change of perspective, for which there are no fool-proof techniques, and for a psychical revolution that can never be guaranteed. Each soul needs a different educational approach. To be effective, education must be on an individual basis, and the approach suited to young Charmides is not suited to Gorgias or to Polus.

Plato is pessimistic about the chances of educational success. Education is a function of time, and there are no shortcuts to virtue. Furthermore, Plato's Socrates is an educational failure. Some of the youth with whom he interacted turned out to be among the worst Athenian tyrants. With already formed adults, like Protagoras, Thrasymachus, or Gorgias, he could not get anywhere, unless they were already predisposed toward philosophy, like Glaucon and Adeimantus in the *Republic* or Phaedo or the young Theaetetus in the eponymous dialogues.

The city of the *Republic* is not a blueprint for the establishment of the perfect state. It is a city in the heavens. It is not a utopia but rather a standard by which to measure actual states. It is not a goal to be achieved as such but a demand for a continual effort of self-improvement, for which an objective, nonempirical standard is given to mark the direction to be followed.

In his last dialogue, *Laws*, Plato passes from theory to practice. Laws are set for a viable state led by nonphilosophers, conforming as much as possible to the standards of the *Republic*. These laws are introduced by preambles aimed at achieving obedience through understanding of their instrumental advantages (more readily understood than real *arete*). But if necessary to ensure obedience, penalties are set for their infringement. Education in such a state is characterized as the correct channeling of pains and pleasures, aiming at developing "a keen desire to become a perfect citizen, who knows how to rule and be ruled" in turn.

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See also Aristotle; Paideia; Socrates and Socratic Dialogue; Sophists; Spectator Theory of Knowledge

Further Readings

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PLAY

Although it is difficult to define play and to carry out empirical research on it, it is widely regarded as important for human life, development, and education. Ancient, premodern, Enlightenment, modern, and postmodern philosophers have sought to illuminate its meaning and purpose. Moreover, educational, psychological, and social theorists remain active in delineating and explicating different positions concerning the relationship between play and education. Much work has also been done on the design and implementation of practical ways to use play to foster students' well-being and learning; nevertheless, play's role in schooling is contested. Scientifically, play's slippery definitions hamper research and evaluation; ideologically, play's reputation and illusiveness invite criticism, and there is opposition to play-related innovations and interventions in education. Philosophical inquiry, conceptual analysis, and empirical research have been vigorous; further work may alleviate some current problems, thereby increasing play's value in education. The remainder of this entry will provide an overview of the extensive literature on these topics.

Books on theories about play include Brian Sutton-Smith's *The Ambiguity of Play* (1997), which discusses seven play metanarratives: modern

forms are play as (1) a showcase of the imagination, (2) a means of self-experimentation and discovery, and (3) progress (i.e., play as a learning medium or a context for growth, development, or psychological adjustment, which is favored by educators). Premodern play forms are (4) competition, (5) games of chance, (6) foolishness, and (7) communal festivities. In addition, Roger Caillois (1961) *Man, Play and Games* identifies vertigo, competition, mimicry, and chance, with discussion about these play forms and their combinations along a gradient from freer (*paidia*) to more controlled (*ludus*) play. Play is uncertain, rule bound, fictive, unproductive, free, and separated from reality. Also, Johan Huizinga's *Homo Ludens* (1955) suggests that culture emerges from the basic human instinct for play; play activity is voluntary, not serious but very absorbing, without material gain, rule bound, conducive to social belongingness, and framed from reality.

Gordon Burghardt (2005) offers a more contemporary, scientific treatment. *The Genesis of Animal Play* informs about the biological, neural, and evolutionary aspects of play and discusses its importance as a source of behavioral novelty and adaptive response: (a) play behavior occurs when the organism is safe, relaxed, and free from extreme wants; (b) play is *autolectic* (i.e., spontaneous, voluntary, intentional, and often pleasurable or rewarding); (c) play is often observable as repeated behavior; (d) play is not purposeless but also not entirely functional in the context expressed; and (e) play is often exaggerated in expression and incomplete, as the final functional elements are dropped. Burghardt's "surplus resource theory" suggests that differences in time, energy, and resources explain the variability in play seen across species and individuals. Burghardt speculates that cultural and educational attainments, and development and civilization itself, are related to play, which is mediated by having available surplus or sufficient levels of time, energy, and resources.

Jean Piaget (1962) and Lev Vygotsky (1978) provide classical, cogent arguments for the importance of play in development and education. Piaget views play as assimilation (i.e., bending or processing reality to fit preexisting cognitive schemata) in complement to accommodation (i.e., modifying cognitive schemata in response to incoming information). Both processes work together to achieve intellectual adaptation. Accommodation is on the cutting edge of new learning, while assimilation integrates and consolidates new learning with the old, making it more meaningful and likely to be used.

Vygotsky sees play as a way of self-scaffolding in the zone of proximal development, enabling children to perform ahead of themselves, which propels learning and development. Like Piaget, Vygotsky views play as important in the development of early symbolization, in self-regulation, and for meeting mastery and control needs that cannot be satisfied in reality.

Educators typically focus on a narrow subset of the wide range of play expression. Play with objects, symbols, and others items, often using one's physical body, is considered under different schemes devised to fit the educator's niche or purpose. For example, in early-childhood education, play that is solitary, parallel, or socially interactive is often nested with physical, functional, constructive, dramatics, or games-with-rules forms to track both the sociality of play and its cognitive form. Block and puzzle play (constructive), simply using toys (functional), or enactments with dolls, with puppets, or in dress-up clothes (dramatic) can occur when the young child is alone (solitary play), near another child playing similarly (parallel play), or in social commerce (interactive play, which can be merely associating, or on a higher level of cooperation, with peers).

As children mature, new and more sophisticated play emerges: sports and dance teams, creative play in theater, camping, nature exploration, crafts, arts and music groups, and intellectual play in debate or chess clubs and in sundry other student organizations. These are all school sanctioned, or *educational*, play, defined as play that is initiated, controlled, and assessed by the teacher, at least to some extent, for on the basis of its educational merit. *Everyday play* is recreational, outside teachers' influence; such "real play" is likely during free play, at recess, or on the playground. In the peer and teacher cultures, play can be cooperative, competitive, illicit, defiant, even mildly or moderately gross, foul, or mean spirited. To remain as play, however, there must be reciprocity and respect between persons. For example, bullying is not play, nor is cruel teasing or tricking a teacher into humiliation.

Play and education are sometimes seen like oil and water—they do not mix. Segregationists relegate play in the school setting to recreational play during recess or breaks on the playground. Even within this traditional, essentialist philosophy with its emphasis on academics and discipline, however, there is tacit recognition that play is needed for children, even if it is not valued as directly serving any educational purpose. Indirectly, play times during the school

day provide rest and relaxation for children. And, according to the "cognitive immaturity hypothesis," children's developing brains especially benefit from "distributed versus mass" practice and instruction. Unfortunately, the health, fitness, and well-being of many children are compromised by school district policies that replace opportunities for play with more allocated time for instruction and test taking (Frost, 2010).

Beyond being needed, play in education is also potentially a "value-added" proposition. Play pedagogies entail teacher guidance or direction and aim for learning-full play or playful learning. If they can tie other instructional methods on indices of academic achievement, they are to be preferred when they are also shown to be superior in fostering social and emotional competencies and creativity and problem solving.

This position has a strong backing and appeal in early-childhood education, where it is commonly accepted that play fosters the development of the whole child; in contrast, direct instruction is insensitive, ineffectual, and stress inducing. David Elkind's (2007) *The Power of Play* theorizes and champions the troika of play, work, and love functioning in balance as needed for a harmonious classroom (and family) life for children. Currently, many programs and activities subscribe to this formula and operate value-added play methods of education across age and grade levels.

Postmodern views on play support the value-added position. Thomas Henricks (2001) writes about how the postmodern world is at play and about how play is not an escape but a response to life and the experience of uncertainty, diversity, and change. Play's quirkiness and flux—its nonlinear back-and-forth quality (*Spiel*, the German word for "play," also means "to dance")—is a kind of binary code in the software programs for imagination, creativity, and problem solving so crucial to meeting present-day challenges and unknown future conditions.

Douglas Thomas and John Seely Brown (2011) concur that play is the root of innovation and imagination. Learning to become, rather than learning past information or even learning to be, is of paramount importance in an era of constant, and rapidly accelerating, growth in information and technology. Becoming, and adaptive intelligence in general, needs to be supported by a new culture of learning in which the acts of playing (*homo ludens*), making (*homo faber*), and knowing (*homo sapiens*) are

combined and used in real and virtual communities. Play is an essential educative process.

James E. Johnson

See also Adolescent Development; Childhood, Concept of; Learning, Theories of; Piaget, Jean

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POPPER, KARL

Karl Popper (1902–1994), an Austro-British philosopher, became widely known for his philosophy of science following the publication of his book *The Logic of Scientific Discovery*; and his two-volume text *The Open Society and Its Enemies* brought him to the notice of professional and lay thinkers with an interest in social and political philosophy. Although Popper's reputation was built largely on these publications, during the course of his long working life he developed a much broader view of the growth of knowledge and individual learning than a reading of these books alone would suggest. His collected writings (including 20 books in English) can be

viewed as the exploitation of the idea of natural selection in the analysis of the growth of knowledge, the development of traditions and institutions, and individual learning.

Although Popper's influence has been significant in a large number of theoretical fields, core aspects of his work have been rejected by some theorists who have themselves been influential (e.g., Anthony O'Hear and David Stove). Also, although he wrote lucidly, the radical nature of the problems that he formulated and discussed means that his works require very close reading; even some professional theorists have misunderstood key elements of his work.

As a young man, Popper worked as a school-teacher in Vienna, yet as a professional philosopher, he did not publish a detailed and fully coherent educational theory. Anyone who wishes to read his views on education must seek out the various references to educational matters scattered throughout his works and refer to the reports of two interviews he gave on this topic not long before his death. Relatively few educational theorists and practitioners have explored the implications of his philosophy for educational practice, and despite the profundity of these implications, his work remains largely neglected in the study of education. This entry briefly considers Popper's theory of learning as it relates to teaching and the curriculum and outlines a few implications of his philosophy for research methodology.

Research Methodology

The aspect of Popper's philosophy that is best known among empirical researchers is the idea that evidence that falsifies is hugely significant in the growth of knowledge. What Popper proposed is, however, complex and not widely understood. He drew attention to an asymmetry between the verification and falsification of a universal theory: While no number of true singular statements can verify or prove the truth of such a theory, one true singular statement can refute it. To use a common and basic illustration of this idea, although no number of true statements of the kind "This is a white swan" can verify the universal theory "All swans are white," the statement "This is a black swan," *if true*, will refute it. It is often assumed that Popper asserted falsification as a means of pursuing secure knowledge of what is not the case. But Popper did not suggest that falsifiable claims to knowledge can be refuted conclusively: Judgment is required to decide whether

or not a theory has been falsified, and any judgment is potentially flawed.

To continue the illustration, although the discovery of another white swan logically adds no weight to the universal theory “All swans are white,” the observation of a black swan shows that something is wrong. What may be wrong is the universal theory (as in this illustration), in which case we should be inclined to modify or abandon it. Or our observation may be in error. Either way, the situation with regard to our knowledge is not as it was.

It can be seen that there are different ways of dealing with the disequilibrium engendered by an apparent refutation: (a) we might immunize our universal theory by saying, for example, “If it’s black, it can’t be a swan”; (b) we might deny or ignore the claim that a black swan has been observed; or (c) we might decide empirically to investigate the matter further. The last of these responses might involve a replication study in which further attempts are made to observe black swans under what appear to be similar conditions to those of the initial observation. A replication study, as conceived here, is not designed to confirm the sighting of what is thought to be a black swan but is a more focused attempt to challenge the universal theory “All swans are white.” For our knowledge to develop, (c) is clearly the best option, not because it will lead to secure knowledge (it will not) but because it involves further trial-and-error elimination in pursuit of new knowledge. In such a process, the discovery of error or specific limitation is the spur to create something new. Discoveries of error and specific limitation encourage us to create new theories, new artifacts, and new ways of doing things.

Popper argued not only that all knowledge is conjectural but also that all attempts to justify particular claims to knowledge are futile. No claim to knowledge is warranted by seemingly compelling evidence or good reasons. With regard to the role of reason in the growth of knowledge, Popper developed a new form of rationalist epistemology, *critical rationalism*, whereby reason serves not to justify claims to knowledge; instead, its role lies in the criticism and, more broadly, the evaluation of such claims. Popper’s antijustificationism is best understood as a skeptical form of fallibilism (and by implication, a skeptical form of *postpositivism*). As clarified by David Miller, fallibilism rejects the quest for conclusive justification and certainty, but skeptics—such as Popper—go further and reject even the quest for partial justification. Miller further distinguishes

Pyrrhonian skeptics, who advise against making any judgments about the worth of hypotheses, from optimistic skeptics such as Popper and others, who proceed on the understanding that some hypotheses are sometimes better than others.

Insofar as Popper’s account of the nature of science in terms of testability has historically had practical significance in education research, those who have attempted to adopt his ideas have often been accused of being positivistic. But Popper was most definitely not a positivist. Unlike the logical positivists, he never demarcated sense from nonsense, and although he demarcated scientific theories and nonscientific theories—the former being in principle refutable by reference to empirical evidence and the latter not being testable in this way—he did not dismiss the potential value of unfalsifiable theories, and he stressed the importance of metaphysical research programs. Metaphysical theories, such as realism, have a significant bearing on what we do; they can be critically discussed, and many such theories are used in the development of science.

Learning, Teaching, and the Curriculum

In the same way that the discovery of error (or specific limitation) is a stimulus to the growth of knowledge in the public domain, so too it is a stimulus to growth in respect of an individual’s learning. Contrary to the common assumption that learning involves the absorption of informational elements from the environment (be it physical or social), Popper argued (building on the work of Otto Selz) that we learn only through trial-and-error elimination and that new ideas are generated by the learner when errors (or, one may add, specific limitations) in current expectations (the learner’s knowledge) are discovered. New expectations, preferences, ideas, and theories are never the result of a process in which informational elements have been transferred and in which the learner is to some degree passive; rather, according to Popper, they are created by the learner under environmental and/or internal selection pressure (the latter including, in the case of much human learning, the consequences of thought experiments). To understand this thesis, it is crucial to recognize that we are conscious of a comparatively small proportion of the processes in which we engage. It may seem that our conscious minds are regulating all or most of our learning activities, but this is an illusion.

It follows that while we may call what a teacher does “instruction,” when students learn in response

to instruction this does not mean that any informational elements have been transferred from the teacher to the students. Rather, what the teacher has said or done must have challenged the students' assumptions in some way and provoked them to engage in trial-and-error elimination—a critical and creative process of (mostly implicit) problem solving.

Those Popperian educationists who view the purpose of education primarily as the continuing development of existing traditions of objectified knowledge favor what Richard Bailey has called the criticalist curriculum. With a criticalist curriculum, students are introduced to a prescribed curriculum of ideas that are considered by the curriculum designers to be particularly important and, in contrast to what mostly happens in the teaching of conventional school curricula, students are encouraged to criticize the ideas with which they are presented. Initiating students into the practice of critical discussion enables them to become better able to reassess and facilitate the development of their cultural heritage. Other Popperian educationists, such as Tyrrell Burgess and Joanna Swann, who view the primary purpose of education as the open-ended—though not unconstrained or unevaluated—development of the individual are inclined to favor student-initiated curricula over what they see as the excessive use of prescribed curricula. Student-initiated curricula—whereby students take responsibility for the content of their formal programs of study—support the development of full learner autonomy by encouraging students to engage in self-initiated, self-directed, and self-monitored trial-and-error elimination.

Joanna Swann

See also Philosophical Issues in Educational Research:
An Overview; Positivism; Postpositivism

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POSITIVE PSYCHOLOGY AND EDUCATION

Positive psychology or “the new science of happiness” claims to be nothing less than the scientific study of optimal human functioning. It was officially launched as a field of study in 1998 by Martin Seligman, president of the American Psychological Association and acknowledged founder of the discipline. Since then, positive psychology has “caught on” with remarkable speed, and it is now taught in hundreds of university and college courses across Britain and North America, as well as in English secondary schools in the form of “social and emotional intelligence.” However, the project is a controversial one. This entry considers the theoretical basis of positive psychology and the main objections that have been raised against it.

The central thesis of positive psychology, as outlined by Seligman, comprises the twin assertions that happiness (“authentic happiness,” not merely hedonistic pleasure) can be achieved if people utilize the positive personality or character traits they are endowed with—their “signature strengths”—in absorbing, purposeful activity, and that a positive, optimistic attitude helps people achieve their goals. The assumptions that underlie this thesis are that

1. happiness is the ultimate good, goal, or end for which we strive;
2. happiness can be defined as or in terms of the positive emotions and pleasant feelings we experience about our lives; and

3. happiness, so defined, can be operationalized as a variable, measured in tests of “subjective well-being,” and empirically investigated so as to establish the factors and conditions that stand in causal relation to it.

Many of positive psychology’s assertions could not reasonably be disputed—for example, that people who have (or who enjoy) absorbing work, close relationships, good health, and a sense of purpose in their lives are happier than those who do not. These are almost truisms. But positive psychology goes further. People who are more positive and optimistic in their attitudes are happier, more “resilient,” and more likely to achieve their goals, whereas pessimists tend to worry about the future, blame themselves when things go wrong, and give up. The task is therefore to develop in pessimists a more optimistic “explanatory style”—and hence make them happier. However, objections can be raised on both psychological and philosophical grounds.

Positive psychology proclaims its independence from the rest of psychology, which it either ignores or (as in the case of humanistic psychology) accuses of lacking empirical foundation. However, there is a growing body of empirical evidence in personality (“trait”) psychology to support the dominant five-factor model according to which the characteristic dispositions or traits that have the highest predictive validity as causal influences on behavior are not “optimism” and “pessimism” but “extraversion” and “introversion.” And though extraverts do indeed tend to be more optimistic than introverts, and experience a more positive mood (which can be explained by physiological differences in subcortical reward systems), both are considered *normal* personality types. There is ample research (much of it documented by Susan Cain) to show that introverts are just as successful and fulfilled as extraverts, which suggests that optimism is not the straightforward explanatory variable Seligman has supposed it to be and that positive mood is not necessarily synonymous with ultimate happiness.

The main philosophical objection to the positive psychology project is that the term *happiness* cannot be conceived or defined—even less measured—in the terms proposed. Though we might find the pursuit of John Stuart Mill’s “higher pleasures” absorbing or compelling, do they necessarily bring happiness? Can we even regard them at all as instrumental to some preconceived end? If we follow Alasdair

MacIntyre in conceiving absorbing activities as practices whose goods are internal (i.e., are only revealed as we develop mastery of the practice concerned), there is no extrinsic end to our engagement in them. So, for example, to live the life of an artist is its own reward. Acts of compassion, heroism, and self-sacrifice are even more problematic. Though some altruistic acts can no doubt be explained by invoking the pleasure principle, there are other acts that can only be explained by a person’s deep sense of duty, principle, or belief. In fact, to do what you believe is right is to act *ethically*. It is to believe that there are goods, values, and ends that are not instrumental to happiness but, again, are *ends-in-themselves*. They are *unconditionally* good.

In Aristotle’s classic formulation of the good life in these terms, the ultimate end-in-itself is the state of eudaimonia. Proponents of positive psychology frequently equate happiness with eudaimonia, and people’s “signature strengths” with the Aristotelian virtues. But whereas in positive psychology people merely have to utilize the “signature strengths” they are naturally endowed with, in the Aristotelian scheme the moral virtues necessary to attain eudaimonia must be habituated by initiation into a moral and cultural tradition. On the other hand, human ends may themselves be plural and heterogeneous. It might be argued, contra Aristotle, that moral dilemmas, moral conflict, and tragedy are inescapable features of the human condition. There is no “optimal solution” to human life.

The objections outlined here all share a concern that people’s experiences, emotions and attitudes cannot be polarized into positive (good) and negative (bad); that suffering, regret, guilt, and so forth are essential to human growth; and that the totality of an individual’s personality, the full context of an individual’s life story and social circumstances, must be considered when identifying what might count as fulfillment, well-being, or mental health. A particular concern of some commentators is positive psychology’s promotion of optimistic illusions of reality. Barbara Ehrenreich notes that dire consequences can follow from people’s optimistic delusions about reality (witness the financial crash of 2008) and warns that the demand for positive thinking—for in the sense of blind optimism—is an established tool of totalitarian repression.

Proponents of positive psychology cite the established techniques of cognitive-behavioral therapy, which have proved highly effective in enabling

people suffering debilitating anxiety disorders to break vicious cycles of negative thinking. The question is whether the lessons of these extreme cases can be generalized to apply to the rest of the population. Indeed, should education aim at all to equip pupils with a toolkit to maximize happiness? Or is it better to habituate the virtues and teach through the old humanities those stories and lessons of human experience that reveal most about the human condition?

Alistair Miller

See also Aristotle; Happiness; MacIntyre, Alasdair; Mill, John Stuart; Virtue Ethics

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POSITIVISM

Positivism is a social, cultural, and philosophical movement that began in the second half of the 19th century in Europe. In slightly different guises (logical positivism and logical empiricism), it dominated philosophy through the mid-20th century. For the past 50 years, it has been criticized from many sides, and especially it has been criticized and shunned in the field of education and particularly in educational research, where (as has often been noted) it is common to use the word as a

general term of abuse, as a label for any position a commentator opposes. However, accounts of its life are oft mistaken, and announcements of its death are premature. This entry presents a brief account of positivism from its origins in the philosophy of the Enlightenment to its systematization by the Vienna Circle of logical positivists. It continues with an examination of its current unpopularity among educators who reject positivism as a failed ideology; and, in a review of the writings on education of two foundational positivists, it finds grounds for a reevaluation of the relationship between positivism and educational theory.

Origins

Positivism was born in an age that witnessed nonstop scientific advances in physics, biology, chemistry, and astronomy, along with massive technological, industrial, and civic transformations. The term *positivism* was first used by the social theorist Henri de Saint-Simon (1760–1825) to designate these progressive, positive features of the age. The philosophers Auguste Comte (1798–1857) and John Stuart Mill (1806–1873) bolstered this early positivism; Comte, in particular, was a foundational figure, arguing that the empirical methods of observation and experiment that were proving to be so fruitful in the positive sciences should become the model followed in other realms of inquiry such as sociology (a term that he coined).

Positivists looked to and valued science rather than religion and metaphysics, their focus was humanity and society rather than God and the church, they strove for salvation and redemption in this world rather than in any purported afterlife, and they built a utilitarian ethics based on promotion of human happiness and welfare rather than on obedience to any religious or metaphysical doctrine. Positivists believed in the possibility of progress across the board: in human life, medicine, social institutions, and cultural components, such as art, music, and literature. They were self-consciously in the tradition of the 18th-century Enlightenment philosophers and cultural critics.

The positivist philosophical program took its canonical form when the term *logical positivism* was used to designate the 1920s work—inspired by Ernst Mach—of the Vienna Circle of Moritz Schlick, Rudolf Carnap, Otto Neurath, Philipp Frank, and the circle's English popularizer, Alfred J.

Ayer. Their staunch antimetaphysical position was reflected in their “verification theory of meaning,” according to which a statement or hypothesis with no apparent means of verification was judged to be meaningless—a fate that, at their hands, befell many of the traditional problems of philosophy.

Rejection of Positivism Among Educators

It is an understatement to say that positivism has been unpopular among educational theorists and philosophers for several decades. (Prominent educational critics of positivism in the late 20th century and their misinterpretations of it—which still live on—are discussed in Phillips, 1987, chap. 8.) Among the many critiques, positivism was, and is, thought to be a narrow-minded cultural, philosophical, and educational malady. Claims that positivism has led to social inequality with respect to class, race, and gender and to human domination over the natural world and that the culture of positivism has become a dominant ideology and unfortunately now represents an integral part of the social and political system of the United States are easy to find in the education literature.

Sometimes, too, the broad and false accusation is made that any researcher who suggests that educational research can be rigorous and scientific must be a positivist; this is only true if the individual concerned accepts the narrow analysis of science given by the early positivists (albeit given for nontrivial reasons). It is sometimes argued, for example, that researchers who are seeking to uncover the causes that underlie educational phenomena are thereby to be identified as positivists, whereas, in fact, positivist dicta proscribe seeking what “lies behind” phenomena—as Comte made very clear (his fear was that seeking unobservable causes would open the way for unbridled metaphysical speculation).

However, as educational theorists dismiss positivism with barely a look back, there is under way in philosophy a serious reconsideration and reevaluation of the position, as can be seen in the publications of Michael Friedman and Thomas Uebel. This reevaluation is not so much seeking to raise positivism from its philosophical and educational grave as it is attempting to look again at the scientific, philosophical, and cultural roots of positivism; to examine positivist writings that have had only limited exposure; to reexamine canonical texts and see if standard or orthodox interpretations of them are adequate; to see how faithful is

the “popular” or “tabloid” view of positivism; and, as Lenin once said, to see what is living and what is dead in positivist philosophy and its educational prescriptions.

Canonical Positivism and Education

The educational writings of two foundational positivists, Philipp Frank and Herbert Feigl, substantiate the claim that the populist and educational (and simplistic) vision of positivists as being narrow, illiberal, and scientistic—alluded to above—is in need of complete revision.

Philipp Frank was born in Vienna in 1884 and died in Cambridge, Massachusetts, in 1966. In 1907, he received his doctorate in theoretical physics at the University of Vienna, where he studied under Ludwig Boltzmann. Frank’s first article, published in 1907 at the age of 23—“Experience and the Law of Causality”—characterized his subsequent philosophical concern: namely, prolonged and informed philosophical reflection on the structures, methodology, and history of science.

Frank (1949) regrets that the “result of conventional science teaching has not been a critically minded type of scientist, but just the opposite” (p. 230). In part, this regret is because “the science student who has received the traditional, purely technical instruction in his field is extremely gullible when he is faced with pseudophilosophic and pseudoreligious interpretations that fill somehow the gap left by his science courses” (p. 230). As a consequence, “this failure prevents the science graduate playing in our cultural and public life the great part that is assigned to him by the ever-mounting technical importance of science to human society” (p. 231).

It is of course the history and philosophy of science that makes good these shortfalls; or rather, for Frank (1949), just philosophy of science because this indeed consists of two inseparable components, “logico-empirical analysis” and “socio-psychologic” analysis (p. 248). The first is conceptual or semantic analysis, the second is careful historical analysis. According to Frank, “this analysis is the chief subject that we have to teach to science students in order to fill the gaps left by traditional science teaching” (p. 245).

Logico-empirical analysis of scientific theories consist primarily in identifying (a) purely logical statements and (b) observational statements, and (c) specifying operational definitions, whereby principles can be connected to observations (Frank,

1949, p. 243). The article gives examples of such analyses of the Copernican controversy, Euclidean and non-Euclidean geometric systems, Newton's laws, relativity theory, and quantum theory. Frank (1949) wants students to be able to decouple observational statements and statements that are deduced from these: "For in all these fields the central problem is the relationship between sensory experience (often called fact finding), and the logical conclusions that can be drawn from it" (p. 234). He uses the Copernican controversy to illustrate his point:

If we look, for example, at the treatment of the Copernican conflict in an average textbook of science, we notice immediately that the presentation is far from satisfactory. In almost every case, we are told that according to the testimony of our senses the sun seems to move around the earth. Then we are instructed that Copernicus has taught us to distrust this testimony and to look for truth in our reasoning rather than in our immediate sense experience. (p. 231)

Frank (1949) says that this account is mistaken and can be shown to be so by logico-empirical analysis: "Actually our sense observation shows only that in the morning the distance between horizon and sun is increasing, but it does not tell us whether the sun is ascending or the horizon is descending" (p. 231). The statement that "the sun is moving" is an elaboration of sensory evidence; it is not *the* sensory evidence; it is what Paul Feyerabend (1975) would later call a "natural interpretation" of the sensory experience (chaps. 6 and 7). Frank is saying clearly that theory affects observation; the engaging philosophical task, and one empiricists are committed to, is to ascertain whether there is a level of observation statements that are not so affected.

For Frank (1949), logico-empirical (semantic) analysis of science is not the full story: "We have to learn not only the operational meaning of symbols like *force* and *mass*, but also how it has come about that just these symbols were chosen" (p. 248). Philosophy of science requires a second form of analysis, what he calls a "socio-psychologic" analysis. He sees psychological, religious, social, and political factors all contributing to "the determination of our scientific symbolism" (p. 248).

Frank is an advocate of liberal education, affirming that a variety of subject matters should be mastered and that, as much as possible, relations between the subjects should be brought out.

He believes that humanities can be taught from *within* science:

The student of science will get the habit of looking at social and religious problems from the interior of his own field and entering the domain of the humanities by a wide-open door . . . there is no better way to understand the philosophic basis of political and religious creeds than by their connection with science. (Frank, 1949, p. 281)

Herbert Feigl (1902–1988), an Austrian philosopher who studied philosophy and physics in Vienna under Moritz Schlick and who later taught at the University of Minnesota, regards promotion of individual autonomy as the prime educational achievement (Feigl, 1955, p. 322). Not surprisingly, he advocates teaching science in a historically and philosophically informed manner:

It is my impression that the teaching of science could be made ever so much more attractive, enjoyable, and generally profitable by the sort of approach that is more frequently practiced in the arts and the humanities. The dull and dry-as-dust science courses can be replaced by an exciting intellectual adventure if the students are permitted to see the scientific enterprise in broader perspective. Preoccupation with the purely practical values of applied science has overshadowed the intellectual and cultural values of the quest for knowledge. (Feigl, 1955, p. 337)

There is clearly a disjunction between the faults of positivism as commonly adumbrated by educators and the principles and practice of education, particularly science education, advocated by Frank and Feigl. Educators are better served by returning to and reading the sources than by repeating antipositivist slogans applicable only to caricatures of the position.

Michael R. Matthews

See also Behaviorism; Educational Research, Critiques of; Mill, John Stuart; Popper, Karl; Postpositivism

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POSTMODERNISM

The term *postmodernism* is commonly used to refer to the ideas of writers and thinkers who react against or criticize aspects of modernity—the period beginning with the scientific revolutions of the late 16th century and lasting until now. Recently, we have been living in what some people call late modernity, or postmodernity. People impressed by postmodernism may be called postmodernists. They seldom refer to themselves in this way because, for reasons that will become clear later in this entry, they are reluctant to be thought of as having a conclusive doctrine. (Not to be confused with modernity, or with postmodernism, with which it shares some features, is modernism in art, a movement dating from the late 19th century.) This entry traces the origins of postmodernism, follows the elaboration of its themes in the works of two influential postmodern theorists, and concludes with a statement of its implications for the theory and philosophy of education.

Modernity, as noted, begins with what is called the Era of Scientific Revolutions—with, for example, William Harvey’s discovery of the circulation of blood, Robert Boyle’s and Robert Hooke’s laws of gases and springs, Galileo Galilei’s development of the telescope and demonstration that the earth goes round the sun, and the work of mathematicians such as Gottfried Wilhelm von Leibniz and, later in the 17th century, Isaac Newton. Another

important figure in the foundation of modernity is René Descartes, who was both a significant mathematician and a philosopher. The discoveries and inventions of this era were so impressive that science, together with the mathematics that it uses, became the model of worthwhile knowledge.

Science offers certainty, and this was especially attractive at a time of turmoil and disaster throughout Europe. The Thirty Years’ War, starting in 1618 as a doctrinal conflict between Catholics and Protestants, resulted in the deaths of one third of the population of central Europe. In England in the middle years of the century, roughly 10% of the adult male population died in a civil war that contested, in part, the divine right of King Charles to rule and ended in his execution, which many feared would offend God and threaten the stability of the universe. The ideas and methods of science seemed to be something that all rational people could subscribe to as the basis for peace, in place of religious conflict and superstition.

Science itself, however, became almost a religion. The movement known as the Enlightenment, which stretched over and beyond the 18th century, tended to see science as the solution to everything. The prestige of science has continued until today: Consider, for instance, how many advertisements claim that “science has proved” the value of their product or how in education the quality of a school tends to be equated with its position on a league table (a table of school performance ratings), as if “scientific” calculations based on children’s scores in public tests and examinations could tell anyone whether they were getting a good education or not. Note that it is modernity’s worship of science and measurement that postmodernism is chiefly critical of, not science itself.

Let us now turn to the work of two writers, both French, who are widely regarded as preeminent among postmodernist thinkers: the philosopher, literary theorist, and sociologist Jean-François Lyotard (1924–1998) and the philosopher Jacques Derrida (1930–2004).

Lyotard

Jean-François Lyotard’s influential work *The Postmodern Condition: A Report on Knowledge* was published first in French in 1979 and then in English translation in 1984. Lyotard was responding to a commission by the Quebec government to report on how knowledge is conceived in advanced

societies, especially under the influence of technology. Lyotard thought that information technology was having a damaging effect on the way we think of learning and knowledge, which become assimilated to “data”—whatever can be translated into binary code and stored on a computer. In consequence, according to Lyotard, other kinds of knowledge and understanding, such as our understanding of a film or a novel, or our ordinary knowledge of other people, risk being marginalized or thought of as somehow second-rate. Another result of the computer age is what Lyotard calls *performativity*. Where we have the vast amounts of data that computers make possible, there comes the possibility of demanding ever more *efficiency*, understood as getting the most out by putting the least in. Along these lines, better teaching would simply be a matter of improving examination results for the greatest number of pupils. He writes, in ironic spirit, “The true good of the system . . . is the optimisation of the global relationship between input and output” (Lyotard, 1984, p. 11).

A memorable and chilling example of performativity occurred at a British hospital in 2006. An inspection revealed that “congealed blood was smeared on seats in the patients’ waiting area, the lavatory floors stank of urine, and grime was encrusted on the sinks used by doctors and nurses” (“Staffordshire Hospital Scandal,” 2009). How had this state of affairs come about? Management was focused on achieving the prestigious status of a “foundation trust” hospital and

had become obsessed with meeting Government targets rather than looking after the sick in its care. . . . An analysis of the trust’s board meetings from April 2005 to 2008 found discussions were dominated by finance, target and achieving foundation trust status. (“Staffordshire Hospital Scandal,” 2009)

Of course, we do not need to be postmodernists to deplore this. But Lyotard gives us a way of understanding the kind of mind-set, ultimately based on financial data and what can be measured, through which it could have come about.

Lyotard also reminds us that performativity entails uniformity. Without uniformity, comparisons between schools, between hospitals, and so on would not be possible. He called comparability based on uniformity “commensurability” and noted how it is bound up with power (the power of those who do the measuring and the calculating) and

threat (the threat hanging over those who do not, as we say, “measure up”):

The legitimization of power is based in optimising the system’s performance—efficiency. The application of this criterion to all our games [i.e., activities] necessarily entails a certain level of terror, whether soft or hard: be operational (that is, commensurable) or disappear. (Lyotard, 1984, p. xxiv)

The language is not excessive. Schools that are deemed to be “failing” face closure. So do university departments whose research is judged to be not up to scratch (they are not “operational,” to use Lyotard’s term).

We have here a kind of totalitarianism. The modernist mind-set expects knowledge to be a unified and coherent system in which every part can be compared—that is, can be commensurable—with every other part. We expect there to be just one, single “scientific” method of arriving at knowledge, with the corollary that knowledge is always and everywhere the same kind of thing. It will conform to the model of naive science, in which to know the world is to represent it as it really is when the light is, so to speak, turned on (the metaphor of “Enlightenment”) and shadows and superstitions are dispelled. It takes only a little thought to realize that this is problematic, especially in areas outside the physical sciences. In mathematics, you cannot find a “2” and then another “2” in the “real world” and *discover* that they are a “4.” In the study of history, there is no objective fact that proves that inflation in Germany in the 1920s was a major factor in the rise of Nazism. This, like much important knowledge and understanding, is a matter of *interpretation*. To be too impressed by the idea of knowledge reflecting “how the world really is” is to risk giving power to those who claim the right to determine what counts as “reality” and what counts as a good representation of it. Postmodern knowledge, by contrast, is “not simply a tool of the authorities; it refines our sensitivity to differences and reinforces our ability to tolerate the incommensurable” (Lyotard, 1984, p. xxv).

In the moving final passage of *The Postmodern Condition*, Lyotard (1984) writes, “Let us wage a war on totality; let us be witnesses to the unrepresentable; let us activate the differences and save the honor of the name” (p. 82). He calls on us to reject views of knowledge as one single, no doubt scientific, kind of thing; to stand up for what we find valuable but cannot present any indisputable

warrant for (e.g., the value of art); and to relish the particularity and difference of people and of things, rather than regretting, for instance, that other people are not like us. Then we will start thinking in ways that deserve being called “thinking.”

Derrida

The French philosopher Jacques Derrida is variously thought of as a poststructuralist and a postmodernist. To understand what poststructuralism is, it is necessary to grasp the elements of structuralism. The Swiss linguist Ferdinand de Saussure (1857–1913) is usually regarded as its founder. He asked how language has meaning. A naive view might be that for a word to have meaning is for it to label or refer to something: The meaning of *dog* is given by the physical being, the dog, at this moment lying at my feet. Language, however, does not always work in this way. There are no physical *ands*, *whens*, or *Saturdays* for the words to refer to. Even the word *dog* can have meaning without a direct referent, in particular when it is a verb (“I fear Moriarty will dog my footsteps wherever I go”). So far from simply mirroring the world, Saussure insists, language has meaning by way of relations of difference. *Saturday* does not have meaning by virtue of some mystic “Saturdayness” (visiting a garden center, playing sports, not being at work). Rather, being Saturday is a matter of not being any of the other days of the week. Similarly, dogs are dogs by virtue of not being cats, horses, or badgers. A dog by any other name (e.g., *un chien*, as the French call it) would be just as loyal, warm, and four-footed. A rose by any other name, as Shakespeare wrote, would smell as sweet.

In Saussure’s structuralism, the sign (a rose) joins the signifier (the word *rose*) and the signified (the concept of a rose) in wholly arbitrary ways. To think of Derrida as a poststructuralist is to note that he takes Saussure’s views much further. For Derrida, the arbitrariness of meaning shades into instability. The word *disinterested* supplies a current example. We might have come up with other words to describe the lack of bias that is constituted by having no personal stake in the matter (the football referee is disinterested if he is not a supporter of either team and has not placed a bet on the result of the game). At the moment, the word is unstable, being apparently in the process of coming to mean the same as *uninterested* (i.e., bored).

Consider the meaning of a poem or a play. We do not imagine that there will come a day when we

can say, “Now we know exactly what that poem means,” so that any further thought about it is deemed to be a waste of time. It is always possible to offer new interpretations and, indeed, interpretations of those interpretations. Every generation rereads Shakespeare’s *Hamlet*, for example, in light of its own time and preoccupations. Or consider what we make of a historical figure such as Karl Marx. Does his name signify the originator of a failed and inhuman political system or an economist whose warnings against unregulated and predatory capitalism are beginning to seem prescient? It is—as the Chinese premier Zhou Enlai is supposed to have said about the meaning of the French Revolution—too early to tell, and on the poststructuralist account, it is *always* too early to tell finally and definitively.

Derrida identifies a tendency that he calls *logocentrism*: our propensity to look outside language, or a text, for something to guarantee its meaning. Someone might say (perhaps in exasperation) that “it stands to reason” (“reason” is *logos* in Greek) that Marx was a failure since the Soviet Union collapsed; that the meaning of a speaker’s words must lie in his intentions; or that “in the real world” dramatists such as Shakespeare write to make money. In all these cases, there is a determination to pin meaning down to something beyond language. Here again is the quest for certainty that is one of the central features of modernity.

Derrida opposes the idea he finds at the root of structuralism, that while language is a system of differences the system itself can be thought of as fixed and closed, like an ideal map. “Man” and “woman” are in this view eternal opposites, and the meaning of the one word is always a matter of not being the other (a view rendered problematic, of course, by the existence of transgender people). Derrida notes that meaning is always postponed. Although language is a system of differences, the system itself is never stationary. Western thought is prone to setting up binaries in which one of the pair is superior to the other. The binary man/woman generally assumes the superiority of the first term (think of a “master class” in music). With many binaries, such as reality/appearance, presence/absence, heterosexual/homosexual, and literal/metaphorical, it comes naturally to us to think of the first term as prior and the second as derivative or secondary. Derrida offers readings of texts where these binaries are reversed or fall apart altogether. These readings constitute the kind of criticism that he calls *deconstruction*.

A famous example is Derrida's reading of Plato's dialogue *Phaedrus*. This includes the theme of binary speech/writing and of the supremacy of the spoken word over the written word. Speech, Plato has Socrates tell the young man Phaedrus, is closer to thought than writing is. Speech is the immediate outcome of thought, while writing often simplifies or complicates the original thought and does not get it right. Moreover, although you can ask a speaker what he meant, a piece of writing maintains a sullen silence in the face of questioning. This is partly why the *Phaedrus*, like most of Plato's texts, is written as a dialogue or conversation, as if spoken. Nevertheless, it is a written text (otherwise, we would not have access to it), full of literary devices. The binary in which speech is foregrounded over writing begins to look less than secure. In helping us see how much more of our understanding and knowledge is a matter of interpretation rather than a certain and secure grasp of the "real world," Derrida is as much a post-modernist as a poststructuralist.

Conclusion

These ideas are important for education. Lyotard and Derrida show us ways to challenge those who expound glib and superficial ideas; who tell us that the purpose of education is to equip young people with skills "for the real world," the nature of reality being thus apparently wholly unproblematic; who assume the right to silence people they position on the other and inferior side of a binary (e.g., progressives/traditionalists, theorists/practitioners, liberals/communitarians); or who imagine that post-modernism can be dismissed as an "anything goes" philosophy.

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See also Deconstruction; Lyotard, Jean-François; Positivism; Postpositivism

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POSTPOSITIVISM

Postpositivism is a broad epistemological position with strong implications for educational and social science research; it evolved during the 20th century, during the slow decline of positivism—hence the "post." It needs to be emphasized at the outset that it is not a type of "super" or improved positivism but is, rather, a successor and a replacement. Given this, the discussion needs to start with positivism itself and the problems that led to its decline—for this is the historical context in which postpositivism evolved.

Positivism, and Why It Was Attractive

Historically, Western epistemology has been foundationalist; the assumption was that to be valid, our knowledge claims must have a solid basis, foundation, or reliable source. Only two types of foundation have seemed to be possible, *reason* and *sense experience*, and of course, these were at the core of the two great opposing Western epistemological traditions—rationalism and empiricism. Positivism was a "purist" form of empiricism, and logical positivism was a particularly "hard-core" form of positivism. (It should be noted that the key empiricist belief

that sense experience is the solid basis or foundation for our knowledge can mean that either [a] sense experience is the source from which all our knowledge is *built up* or [b] sense experience provides the tests and criteria by which we *verify or establish* that our knowledge claims are correct. Both of these readings can be found in the history of empiricism.)

It is clear that positivism, including especially its logical positivism variant, had a significant impact on educational research over perhaps four or more decades in the middle of the 20th century, and some scholars argue that its influence still can be detected today. Certainly, there is no dispute that the behaviorism that was dominant (and remarkably productive) in educational psychology around mid-century was deeply influenced by logical positivism (B. F. Skinner, the pioneer of “operant conditioning,” had been introduced to positivist philosophy in courses in graduate school).

The problems faced by positivism shall be outlined in the following paragraphs, but it needs to be stated here that after it died, or at least withered, it was succeeded by a number of “postpositivist” positions. The postpositivism that is emphasized in this entry has some affinities with the work of Karl Popper, Israel Scheffler, and others; and crucially, it is *neither* rationalist nor empiricist but is *nonfoundationalist*. In the words of Popper (1965),

The question about the sources of our knowledge . . . has always been asked in the spirit of: “What are the best sources of our knowledge—the most reliable ones, those which will not lead us into error, and those to which we can and must turn, in cases of doubt, as the last court of appeal?” I propose to assume, instead, that no such ideal sources exist . . . and that *all* “sources” are liable to lead us into error at times. And I propose to replace, therefore, the question of the sources of our knowledge by the entirely different question: “*How can we hope to detect and eliminate error?*” (p. 25)

Here, Popper was rejecting both forms or readings of empiricism—sense experience was not a fully reliable “source,” nor was it a fully reliable “last court of appeal” for purposes of verification. Acting on our beliefs and noting the consequences (presumably via our subsequent experience) cannot reliably verify our beliefs but can at best allow us to “detect and eliminate error.” It is worth noting that there is some similarity here with the philosophy of William James, John Dewey, and the other classical pragmatists, for according to them, an item was not accepted

as knowledge in light of its *origin or source* but as a result of the *consequences that followed from it being used or acted on*; but crucially, the resulting knowledge was not something with which we could “rest,” but it was always likely to be revised or abandoned whenever future action had consequences that led us into new difficulties. For the pragmatists, “theories thus become instruments, not answers to enigmas, in which we can rest” (James, 1907/1974, p. 46). In this respect at least, the classic pragmatists were close to being nonfoundationalists.

Another major feature of logical positivism, related, however, to its empiricist foundationalism, was its extreme hostility to metaphysics, which was judged to be destructive of science. The positivists held that sense experience was the objective, value-free foundation of scientific, and indeed of all, knowledge. The problem with metaphysics, in their view, was that metaphysical disputes cannot be settled empirically, because they referred to entities and processes that lay beyond the physical realm, and thus metaphysical hypotheses were not observable and certainly were not testable; and because of this, true and false hypotheses could not be distinguished from each other, and so (it seemed to follow from this that) these hypotheses were literally meaningless. The logical positivists, as is well known, were operating with a “verifiability criterion of meaningfulness,” according to which only statements that could in principle (but not necessarily in practice) be empirically verified were meaningful. (Sometimes the mistake has been made of holding that Popper was a positivist because he had a view that at a superficial glance seems identical but that in fact was profoundly different—he posited a *testability criterion for demarcating science from nonscience*, according to which nontestable propositions were nonscientific but crucially were still meaningful.)

Factors Leading to the Downfall of Positivism and Logical Positivism

Over the years, all the main aspects of positivism have been undermined, and of course, this is what has led to its widespread abandonment (even if a few positivist attitudes still are harbored by some in the educational research community). In summary form, the chief developments have been the following (see Phillips & Burbules, 2000).

The view that sense experience (observation or perception, data recording, etc.) is a “pure,”

objective foundation on which knowledge can be built was undermined by the realization that perception is theory laden. Thus, for example, two observers who hold different theoretical positions may actually perceive different things when looking at the same phenomenon, for their theories define what is important and what can be ignored, what is central and what is peripheral. In a sense, what is seen depends on what is believed.

The role played by theories and background assumptions is often unconscious, as illustrated by the psychological experiment with the so-called “anomalous playing cards”: It is part of the background knowledge of many people in the modern world that a deck of cards contains two types of red cards (“hearts” and “diamonds”) and two types of black cards (“spades” and “clubs”). Slides were made of a number of cards, one of which had been given the wrong color (e.g., a black “six of hearts”); these slides were then shown, with extremely rapid exposures, to a number of subjects in an experiment. The individuals were able to successfully identify all of the cards except the anomalous one, which appeared to them to be out of focus or brown or smudged. The special slide had to be shown for quite a long exposure before it could be identified accurately. The point of this study is that here the background knowledge that the “six of hearts” is a red card was coming into conflict with the visual experience, which was of a black “six of hearts”; and the study shows that what individuals perceive is not purely a function of what is received by the sense organs but that background knowledge and beliefs and so forth are also involved.

The view that empirical data is the firm, objective foundation for knowledge was also confronted with the difficulty that theories, hypotheses, or knowledge claims are *underdetermined* by a given set of evidence. Put simply, a finite set of empirical evidence E is compatible with (can be accounted for by) a number of different theories or hypotheses T1, T2, T3, and so on, so that choice of a theory (say T1) must involve *more than* appeal to the set of evidence E. The most common examples, perhaps, come from medicine: The symptoms/evidence displayed by a patient (e.g., high temperature, vomiting, soreness in the abdomen) can often be explained by several hypotheses—maybe she has the flu or a ruptured appendix, or is suffering from food poisoning. The same phenomenon of underdetermination is also the source of occasional problems in the field of criminal justice—finding a person guilty of

a crime on the basis of “circumstantial evidence” is somewhat risky, for there may be other (at the moment unknown) individuals who also fit this evidence.

Another problem for the view that theories or hypotheses are established straightforwardly by empirical evidence is the traditional problem of induction. If the hypothesis or theory makes a generalized claim (e.g., “All X are Y”), then this is a claim that no finite set of empirical data can establish because—unless X is a very small set—“all X” will not be able to be observed. In other words, generalized claims usually go *beyond* the empirical evidence that is available. Thus, for example, Piaget’s claim that *all* children, in the course of their development, pass through the same “developmental stages” was not conclusively supported by the evidence he presented, which obviously had not been collected from all children but only from an extremely small sample (and, it can be remarked, not a random sample).

Finally, the logical positivist “verifiability criterion of meaning” generated a great deal of controversy. For one thing, it was not clear how such a criterion could be validated. And, as Popper and others held, just because a proposition or hypothesis is not empirically testable, it does not make it meaningless; thus, metaphysical theories are not empirically decidable, but they certainly can be discussed and criticized, and they certainly have an impact on the lives of many individuals, so it seems extremely harsh to arbitrarily call them “meaningless.”

The Main Features of Postpositivism

As briefly mentioned above, as positivism withered, it was replaced by a variety of often overlapping philosophical positions; and speaking accurately, these are all “post”-positivistic. The one being described here as a fruitful philosophical basis for assessing educational research, however, is the one that in the education literature has often been labeled “post-positivism,” so this usage will be adopted without further comment. Its chief features are as follows.

First, and as stressed earlier, this postpositivism embodies a *nonfoundationalist epistemology*. Popper’s (1965) words are clear:

But what, then, are the sources of our knowledge? The answer, I think, is this: there are all kinds of sources of our knowledge, but *none has authority*. Thus the empiricist’s questions, “How do you know? What is the source of your assertion?,” are

wrongly put. They are . . . *entirely misconceived*: they are questions that beg for an authoritarian answer. (pp. 24–25)

Second, and relatedly, all our claims to have gained knowledge are tentative; there may be other theories or hypotheses (perhaps ones that we have not thought of), apart from the one that we accept, that are compatible with the evidence we have available at the moment and which has led us to accept a particular item as knowledge. And, of course, future investigations might produce new findings that cause us to abandon or dramatically revise the theory or hypothesis that we accept at this moment. In other words, rather than being established with certainty, all our knowledge is *conjectural*.

Third, although the things we currently accept as knowledge cannot be regarded as being indubitably true, they are not groundless; we usually have good reasons for accepting them, but the point is that the “good reasons” do not confer certainty. John Dewey’s terminology is helpful here; he argued that the concept of “truth” should be replaced by the notion of “warrants for making assertions” or “warranted assertibility” (Dewey, 1966). His point was that a warrant is an argument or a case that is offered to justify a course of action or the holding of a belief; warrants do not absolutely establish that the action or the belief is the correct one; rather, they establish that this action or belief is reasonable given the evidence or other considerations that have been put forward. But there is another point—a warrant that is reasonable at one time may be unreasonable at another time, when different evidence or other arguments are available, so that the original warrant might be withdrawn.

Fourth, from the perspective outlined above, researchers can be regarded as attempting to produce warrants to support the acceptance of a theory or hypothesis, and these warrants can contain evidence of *very many different types*: observations and questionnaires, interpretations of human actions, statistical analyses of data, results of randomized controlled experiments, and so forth, together with arguments that link these various premises together and lead to a conclusion.

Fifth, many postpositivists emphasize one sort of value neutrality with respect to research. Researchers as individuals may draw inspiration and guidance from moral, religious, political, and social values, but such values should not play an internal role in the conduct of their research. Similarly, their research

should not be influenced epistemically by goals such as economic reward from their work. Truth in science is not determined by such epistemologically irrelevant values, which are external to scientific inquiry. This is the thesis of the *value neutrality* of research. (The undoubted fact that some researchers have allowed such external values to influence their work does not indicate that this *ought* to have happened.) It is important to stress, however, that postpositivists also recognize that research has *internal values* that play a crucial epistemological role—honest and accurate reporting of observations and data, avoidance of deliberately using vague or ambiguous language in describing research, not suppressing evidence that would refute a favorite hypothesis, and so on. Research cannot be value neutral *in this sense*, for these values help make the research possible (see Phillips, 2000, chap. 13).

An example that is often used to illustrate the points here concerns the Russian agricultural scientist Trofim Lysenko. Working during the Stalinist era in the USSR, he allowed his political values, and probably also his desire for fame and influence, to shape his work on plant genetics; and so he accepted on the basis of faulty evidence a Lamarckian approach to genetics that was deficient (and that was opposed to Mendelian genetics) but that was in accord with certain beliefs of the Soviet leader Joseph Stalin. As a result, Lysenko was rewarded, but Soviet agricultural policy based on his faulty science led to disastrous results, including crop failures. Scientific conclusions that are accepted on the basis of external values rather than on the basis of a sound warrant that incorporates reliable and relevant evidence are *unwarranted* and generally will lead to failure when put into practice.

Sixth, and related to the point above, many postpositivists agree that an important mechanism for preventing external values (and things such as gender and ethnic biases) from influencing the internal functioning of science is the fostering of open scrutiny and criticism within the research community (the practice of “blind” refereeing of work submitted for publication—where the referees do not know the identity of the authors—is an important part of this mechanism). This is the source of the objectivity of science; we cannot prevent—and should not try to prevent—individual scientists from drawing inspiration from the values that they hold, but communal scrutiny and open discussion will most often detect when these external values are biasing the research processes. (Open scrutiny also helps with

error elimination, which is a key mechanism leading to scientific advancement.)

Implications

The implications for educational research of the postpositivism described above can be summarized as follows: Because postpositivists do not believe in “absolute foundations” for research knowledge (recall Popper’s remark that “there are all kinds of sources of our knowledge but none has any authority”), they do not accept that quantitative or experimental data are inherently better than data collected by qualitative, observational, or interpretive techniques. Thus, they accept the scientific status of *both* quantitative/experimental and qualitative/interpretive studies. In all cases, the evidence needs to have been collected carefully and objectively (in the sense described earlier). What is crucially important is not the type of evidence but the *argument or case or warrant* that is constructed to support the claim that this evidence leads to the conclusion that has been put forward.

Scientists are engaged in producing cases or arguments or warrants that support the conclusions they offer about the problems they are investigating. Charles Darwin explicitly made this point in the opening sentence of the final chapter of his great *On the Origin of Species*—“This whole volume is one long argument”—and went on to recapitulate the astounding amount, and different types, of evidence that he had incorporated into this long argument. The “Contents” pages of the book are extremely revealing, making it clear that Darwin drew into his “case” many different types of evidence, and he linked these together with compelling logic—and incidentally, his case was made more compelling by the explicit consideration he gave to objections to his theory, and to the difficulties it faced.

D. C. Phillips

See also Behaviorism; Dewey, John; Knowledge, Analysis of; Popper, Karl; Positivism; Scheffler, Israel; Value-Free Ideal for Research: Controversies

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POSTSTRUCTURALISM

See Deconstruction; Postmodernism

PRIVATIZATION

Privatization can be understood as the transfer of public, state, or community resources or entities, or their formal control, into private hands. In education, the term is used, sometimes accusingly, to describe policies and reforms that move authority away from the state or from quasi-public entities closely associated with established public education institutions, such as teachers unions or professional organizations. This entry provides an overview of common conceptions and uses of *privatization*, examining the political forces and motivations advancing and opposing the idea broadly in education. Variations of the concept in education are discussed along with the significance of the concept in the thinking and policy making around education. The concluding discussion considers alternative ways of understanding the issue.

Privatization can take many forms and may involve full or partial transfer from the public to the private sector. It takes place around the globe, in both developed and developing countries. The concept is often seen in contrast to nationalization, which transfers private property such as industries or resources into state control.

Privatization is often associated with the sale of state assets such as water or telecommunications systems to private investors in developing nations in the 1980s and 1990s. Policies promoting privatization were often required by multinational agencies, such as the International Monetary Fund or the World Bank, as part of “structural adjustment programs”

stipulated for debtor nations. These policies were imposed since state ownership was often associated with corruption, waste, and inherent ineffectiveness. Meanwhile, the dominant neoliberal logic assumed that the private sector had built-in incentives to be effective at satisfying consumer demand. However, while such sales might have produced significant windfalls for governments, transferring such enterprises away from state control often became an end in itself. Consequently, many such sales were completed for prices that were well below market value, according to critics.

Privatization as commonly understood does not entail only transfer of production to private hands but can instead involve shifts in funding or governance. A key factor is *movement* toward private control. This basic idea can take different forms, including contracting with private providers for services previously offered by state agencies; public subsidies either to private providers or to service users; shifting costs to users; or restructuring policies so that users of a public good or service are instead treated as market-style consumers under the logic that the good or the service primarily generates individual, private benefits.

Privatization in Education

These types of policies are increasingly evident in education with some of the same justifications, but often the policies assume different forms. With respect to public education, the term *privatization* typically has negative connotations, so it is more likely to be used by opponents of these policies than by advocates. Still, policy advocates with concerns about the inherent efficacy of state management of schools tend to promote a number of reforms that enhance the influence of nonstate actors or undercut the power of public authorities. In one of the first and most influential such proposals, the economist Milton Friedman outlined a system where, instead of directly funding state-run public schools, governments would grant families a voucher—a sum of money that could be used by the family to cover the cost of education at the public or private school of their choice. Although this did not represent the classic conception of transferring public entities—schools in this case—to private ownership, it was intended to enhance private control in education in terms of both the emergence of more privately run schools and the cultivation of a consumer mentality among parents of schoolchildren. Advancing from a

pronounced commitment to consumer liberty, and drawing from economic assumptions about inefficiency, ineffectiveness, and unresponsiveness in the public sector, Friedman noted that schools need not be managed by the state to serve the public. Therefore, in this logic, private schools should also be funded by public revenues through vouchers. He would subsequently argue that public schools themselves should be privatized.

The consequent push to enhance private interests in public education has appeared in manifestations other than vouchers. Calls to contract out management of public schools to private—either for-profit or nonprofit—groups are reflected in the proliferating charter school movement, which privatizes management or governance to some degree. Some privatization advocates encourage the use of private service providers for noninstructional services, such as transportation or food service, or even for instructional services. Recent policies in the United States, such as No Child Left Behind, promote the use of new education service providers for after-school instruction. In some cases, funding streams have shifted to private sources, as with the imposition of school fees on parents, or the trend toward accepting advertising in schools in exchange for fees or other resources.

In considering privatization, it is useful to distinguish this concept from corporatization and marketization. The former may have many of the appearances of privatization, and the concepts share some basic characteristics. But corporatization involves reorganizing school management along larger-scale private models characterized by hierarchical structures, such as through franchising or other means of creating chains of schools. Corporatization can be seen as one subset of privatization. Marketization involves the creation of market-like institutional conditions around schools, often through enhanced choice, competition, and operational autonomy, to compel them to behave more as private businesses. However, such conditions can be created around public schools and are not necessarily premised on the participation of private or privatized schools. Nonetheless, the creation of market-style conditions can serve as a *de facto* form of privatization when it incentivizes public schools to adopt organizational behaviors associated with competitive business enterprises.

As noted, using the label of “privatization” to describe various education reforms is a contentious issue. Parents and community groups have used the

term to oppose transferring control of schools to outside management agencies; proponents of market mechanisms, such as choice and competition in education, often explicitly reject the term. Yet while most education reforms do not entail the classic transfer of ownership of schools from public to private ownership, many do reflect the broader trend of shifting influence or control of resources toward private hands.

In view of the contention around traditional approaches to analyzing privatization, rather than focusing only on shifts in provision, governance, or funding, alternative approaches to this issue can also offer some insights. For instance, instead of assessing only the type of ownership arrangement, observers can also look to the orientation of an entity, examining changes in the organizational behavior of schools. Especially as schools are increasingly immersed in more market-like environments, theories from the economics of nonprofits suggest that there may be reasons to suspect that they use their greater autonomy to adopt behaviors associated with profit-seeking firms, regardless of their technical definition as public or private, nonprofit entities.

Another alternative for understanding privatization in schooling is to consider how systems elevate individual or collective objectives for education. Inasmuch as individuals and policymakers see education as a larger collective or societal good, policies will focus on broader, more democratic forms of governance and funding, for instance. However, as policy and popular discourses increasingly emphasize the ways that the benefits of education accrue to individuals, the purpose of public education is essentially privatized. Thus, policies are then often arranged to enhance the role of individuals in funding and decision making around education.

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See also Charter Schools; Globalization and World Society; Managerialism; School Choice

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PROBABILITY AND SIGNIFICANCE TESTING

Education researchers often want to make inferences from what they have observed to cases and situations they have not observed. In some cases, the inference is about whether the measurements made on a sample of people give results close to what would be obtained for the entire population if it had been measured. In other cases, the inference is from the size that has been detected in the difference in outcomes for two groups in an experiment (the effect size) and from the effect size that would be obtained if the experiment were repeated many times. There are two contending approaches to probability that can be brought to bear here.

The statistical procedure of significance testing, based on a *frequentist* conception of probability, can be used to decide whether to accept or reject a hypothesis, and crucially, it gives an indication of how often that decision is likely to be wrong. On the other hand, the *Bayesian* conception of probability shifts researchers from making a decision about whether to accept or reject a specific hypothesis to using results of studies to adjust their estimates of the probability of competing hypotheses, such as whether or not some experimental treatment will be effective. (Examples of these procedures are given in the next sections of the entry.) This entry sketches the relevant assumptions of both conceptions of probability and the logic behind significance testing. Then, it describes persisting controversies about the

reliance on significance testing as the primary basis for drawing conclusions.

Two Conceptions of Probability

As sketched above, different conceptions of probability undergird different approaches to statistical inference. In the frequentist conception, probabilities refer to the proportion of times—in the long run—that a particular outcome is obtained for some event. For example, saying that the probability of rolling a “1” on a (fair) six-sided die is $1/6$ means that, in the long run, “1” will come up $1/6$ of the time.

A competing conception of probability equates it with the (prior, “subjective”) beliefs that someone has about the likelihood of each possible outcome of an event (e.g., that a treatment used in an experiment will, or will not, be effective). Or, to revert to the previous example, I might distrust a die being used in a game and believe that the probability of rolling a “1” with a particular die is $1/10$. This conception of probability is credited to an 18th-century essay by Thomas Bayes, hence, it is referred to as the Bayesian conception.

The relevance of the difference between these two conceptions can be seen in the role that is played by new evidence. Because the frequentist conception defines probability as the long-run relative frequency (the long run being infinitely long), the investigator—who makes observations only in the short run—will never be able to observe the actual probability. Instead, the frequentist develops procedures for drawing inferences about what the short run would look like under some assumption about the long run probability and then makes an informed guess, recognizing that the guess may be wrong. Under the Bayesian conception, in contrast, the investigator uses new evidence to adjust the prior beliefs that were held about the probability of each of the possible outcomes.

Consider once again the example of rolling a die. The frequentist, on the one hand, might start by considering the following hypothesis: “The die is a fair one and therefore the probability of rolling a ‘1’ is $1/6$,” and use this hypothesis to establish a rule for using new evidence to decide whether in fact to accept it. One possible rule would be to reject the hypothesis that the die is fair if the proportion of “1” in a new study involving a short run of die rolling was so far from $1/6$ that it would occur infrequently, say less than 5% of the time. (Of course, there is still

some probability, but a small one, that rolling a fair die a considerable number of times will turn up a 1 only 5% of the time; a 1 should turn up $1/6$ of the time in the long run! So the rule that is adopted is a guide to making a decision. The decision could be wrong, but is unlikely to be wrong if the percentage figure is set very low.)

Bayesians, on the other hand, would use evidence gained from trials of rolling the die to adjust their prior belief about the probability of getting a “1” with this die. So, for example, if in a series of rolls of the die a 1 turned up $1/10$ of the time, this information would be used to adjust their expected probability from the $1/6$ that they originally held.

Significance Testing

The approach taken by the frequentist is an example of significance testing, which owes much to the work of Ronald A. Fisher, a major figure in the work on design of experiments. The logic of significance testing contains an interesting quirk: Instead of directly trying to establish that, for example, a treatment given to an experimental group but not a control group is effective, and this has produced a difference in scores between the two groups, the Fisherian approach is to adopt the *null hypothesis* that there is no real or significant difference between the two groups (the only differences between the two—and there always will be some difference—is due to chance). To establish that the treatment was effective, the null hypothesis has to be rejected—that is, it has to be the case that there is some difference between the scores of the experimental/treatment group and the control group, a difference that cannot reasonably (in all probability) be attributed to chance. In short, instead of directly establishing that the treatment was effective, the approach is to show that the claim that it was not effective (the null hypothesis) was probably false.

Thus, the Fisherian approach is to compute the probability (relative frequency) of outcomes that would occur if the null hypothesis were true. Given that assumption, a p value is computed for the test results that were obtained in a study—the probability of getting a result at least this different from what would be expected by chance. The common decision rule is to reject the null hypothesis as being false when the probability value (p value) is less than .05 (for then, the result obtained has only a low probability of being due to chance); this will lead

the investigator to make a mistake and falsely reject the null hypothesis 5% of the time. If the decision is to reject the null hypothesis and thus to accept that the treatment in the experiment was the cause of the difference in results between the experimental and the control groups, the result is called “statistically significant.”

The frequency of falsely accepting the null hypothesis when it is true depends on several other factors, including the power of the statistical test and what alternative hypotheses are considered. The discussion below focuses on the case of estimating a treatment effect, with the null hypothesis that that treatment effect is zero. But the general analysis applies to other tests of a null hypothesis.

Criticisms of Significance Testing

Statistical significance testing has been criticized for decades, for a variety of reasons. Chief among these is that many investigators do not understand the role of probability in significance testing. The correct interpretation of a p value is that it is the probability of getting *a difference as large as the one obtained* if the null hypothesis is true. Investigators misstate the meaning of the p value, saying that it is the probability that the null hypothesis is true. The p value is a guide to the investigator in making a decision about whether to consider that the null hypothesis is true or not.

Another issue is that the practice of using significance testing as a primary basis for deciding what to report in academic journals has also been repeatedly criticized. If, as many scholars believe, journal editors will publish only studies where statistically significant results have been found (i.e., if they do not publish studies where no significant difference was found between experimental and control groups), then this publication practice will bias the literature. For example, if 100 studies were done on a treatment that really has no effect, by chance, about 5% of these studies could (erroneously) report a statistically significant result; if these are the only studies out of the 100 that get published, the literature will be biased in favor of this incorrect “finding.” Critics also have noted here that publications do not always acknowledge the effect that sample size has on the likelihood of getting a statistically significant result. With large samples, a small p value will be frequently obtained, even if the actual effect is only slightly different from the null hypothesis.

Alternatives to Significance Testing

There are some alternative strategies that can be adopted, which require a more technical exposition that will be kept as brief as possible. An alternative that critics of significance testing propose is to publish estimates of effect sizes with information about the variability of the samples. By publishing estimates of effect sizes, researchers get away from the stance of treating the null hypothesis as the main thing of interest. Information about variability can be conveyed either in a frequentist conception as a confidence interval, or in a Bayesian conception as description of beliefs about the probability distribution for the effect size, based both on an initial probability distribution and on the new data. The frequentist confidence interval conveys information about variability, but it may be misinterpreted in ways parallel to misinterpretations of significance testing.

In a Bayesian analysis, the result will be a display that shows the probability distribution for a range of estimated effect sizes, indicating both which value is most likely and how likely it is that the actual effect is in any range of values.

Conclusion

Despite the repeated criticisms of significance testing, the practice remains common in scholarly journals, though now usually supplemented by reports of variability and sample size. Bayesian approaches to statistics are increasingly popular. Confused interpretations of both probability and significance testing continue to be common. The best advice for researchers is to treat the results of any single study with caution. In both interpretations of probability, the investigator is always left with uncertainty.

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See also Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; Qualitative Versus Quantitative Methods and Beyond

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PROBLEM-BASED LEARNING

Problem-based learning (PBL) is an instructional method that aims at cultivating students to be independent problem solvers, self-directed lifelong learners, and team players. In its conceptualization, PBL draws on contemporary human learning theories and educational philosophy, including the information processing model, cognitive theories, the schema theory, situated cognition, metacognition, and constructivist instructional theories. Research has shown that PBL is an effective instructional pedagogy that engages students in active, meaningful learning and results in deeper understanding and longer retention. This entry discusses the components and process of PBL, models of PBL and variations on it, and limitations to PBL.

PBL was conceived in the medical education field in the 1950s. During the 1970s, McMaster University in Canada first systematically implemented its PBL medical curriculum. Since then, PBL has become a prominent instructional method in medical and health science education throughout North America, Europe, Australia, Asia, South America, and Africa. PBL has also been widely adopted by various disciplines in higher education, such as business administration, engineering, leadership education, as well as K–12 education settings, for example, mathematics, science, and

microeconomics. To date, its popularity continues to rise.

Components and Process of PBL

Several components operationalize PBL's educational philosophy and instructional aims.

Components

Problem-Driven Learning. In PBL, learning starts with a need to solve problems, instead of receiving instruction about content knowledge from the instructor. The need for solving specifically chosen or designed problems drives students' learning in acquiring and applying intended content knowledge and skills along the way. Thus, PBL simulates the process of solving problems, a process in which learning is embedded. Human curiosity and the tendency to take on challenges are the two main motivations driving students to learn in PBL.

Problem/Case-Structured Curriculum. In PBL, the content knowledge and skills to be learned are organized around problems, rather than in the form of a hierarchical list of topics. This organization of curriculum helps students construct the content knowledge in a problem/case-based structure in their memory so that the knowledge learned is integrated as a usable schema. Furthermore, the problem/case-structured curriculum also helps students develop their conditional knowledge, which is essential for applying and transferring content knowledge in real-life situations.

Authentic, Ill-Structured Real-Life Problems. The problems used in PBL are authentic, ill-structured problems, as opposed to well-structured problems seen in textbooks. Real-life, ill-structured problems are the ones that contain vague goal states, several unknown problem elements, multiple solutions, and ambiguity about the concepts or principles needed to solve them. In PBL, the use of ill-structured problems helps students develop their ability to adaptively apply their knowledge to deal with complicated real-world problem situations.

Self-Directed Learning. Student learning in PBL is student led and self-directed rather than dictated by the instructor. PBL requires students to initiate and be responsible for directing their own learning.

This is to cultivate students' lifelong learning skills and mind-set. Yet the self-directed learning is not a free form of learning but is facilitated by the instructor. The role of the instructor in PBL is to guide students to engage in a scientific reasoning and problem-solving process rather than to disseminate content knowledge.

Small Group Settings. PBL students collaborate and work in small groups to solve the problems assigned to them. This collaboration component helps students develop social, interpersonal, collaborative, and intersupportive skills that are much needed in today's workplaces. Also, the small group working environment provides students opportunities to hone their interpersonal and teamwork skills.

Reflective Learning. Reflection is an important component in PBL. Improving on one's own learning is a key to lifelong learning. Either by self-monitoring or with instructor's facilitation, students engage in metacognitive activities in which they examine their understanding and learn to revise their strategies for effective learning and problem solving.

The Process of PBL

Students go through seven steps in PBL:

1. Students in groups of five to eight receive a problem.
2. Students define and reason through the problem.
3. Students set learning objectives by identifying what they need to learn in order to solve the problem and generate hypotheses about the cause of the problem.
4. During self-directed study, individual students complete their learning assignments, which may include collecting related information, studying resources, and preparing reports to the group.
5. Students share their research results with the group, revisit the problem, and generate additional hypotheses and reject others based on their learning.
6. Students generate or select the most viable solution to the problem.
7. At the end of the learning period, students integrate and reflect on their learning.

Models and Variations

As PBL migrates to various disciplines and levels of education, a great number of variations have been developed to meet their unique instructional needs and contexts. However, the use of the term *PBL* has caused confusion and debates about what exactly PBL is. Though this is still a question open to discussion, when defined broadly, PBL can be considered as an overarching term for a variety of problem-driven instructional approaches. Six representative PBL models are described as follows:

Pure PBL: Pure PBL is the original form of PBL. There are no lectures or similar forms of knowledge dissemination in the instruction. Students who study under pure PBL assume the highest degree of responsibility for directing their problem-solving and learning process. The problems used in pure PBL are highly complex, ill-structured, and as authentic as possible.

Hybrid PBL: This form of PBL employs a combination of pure PBL with a limited amount of lectures as supplemental instruction. High degrees of self-directed learning and solving authentic ill-structured problems are still the dominant learning format. However, students receive a limited number of lectures or minilectures to ensure sufficient coverage and accuracy of their knowledge acquisition.

Anchored instruction: Originally developed by the Cognition and Technology Group at Vanderbilt, this uses video-based scenarios to anchor students' learning in real-life situations. Anchored instruction requires students to solve problems by using their prior knowledge, and the content knowledge is provided by the teacher when needed.

Project-based learning: In project-based learning, students are assigned to complete a project in which they have to devise a solution to a real-life problem with the content they have studied. However, the problem-solving process in project-based learning functions chiefly for knowledge application rather than knowledge acquisition.

Case-based learning: Case-based learning is problem-driven and contextualized instruction for students to establish the connections between theories and applications. By studying and analyzing real-life problems/cases, the students realize how the abstract concepts are used or manifest themselves in real-world situations.

Lecture-based learning with problem-solving activities: This category of PBL is at the lowest degree on self-directedness and structuredness of problems used. The problem-solving activities are aimed at providing a link to the theoretical concepts.

Limitations

PBL has been confirmed as an effective instructional method, however, it is not without shortfalls. First, designing effective PBL problems is difficult and time-consuming. When this issue combines with self-directed learning, ineffective PBL problems could lead students to work with irrelevant information that will reduce the effectiveness of learning. Also, PBL may require substantially more resources to implement at a departmental level, or at a larger scale, due to the number of facilitators needed and the training for improving instructors' facilitation skills. Last, when working in groups, personality conflicts or uneven contributions from the group members pose problems for the effectiveness of group processing, which could affect the students' learning outcomes.

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See also Communities of Learners; Experiential Learning; Learning, Theories of; Metacognition; Project Method; Radical Constructivism; Ernst von Glasersfeld; Service-Learning; Social Constructionism; Teaching, Concept and Models of

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PRODUCTIVE LABOR AND OCCUPATIONS: FROM DEWEY TO MAKARENKO

Education through occupations is a system of teaching children using tasks that are analogous or similar to productive tasks in the workplace or the home. It can be distinguished from vocational education by the fact that its aims extend beyond the attainment of vocational skill to encompass civic education. Education through occupations is most closely connected to the work of the American educator and philosopher John Dewey (1859–1952), who made it the centerpiece of his educational program and gave the term a particular significance, but in its more general sense, the term can also encompass the work of other scholars, including the Soviet educational theorist Anton Makarenko (1888–1939). In what follows, the scope and aims of Deweyan education through occupations are outlined and contrasted with some of the dominant trends in early 20th-century vocational education. The key tenets of Anton Makarenko's approach to schooling are also outlined briefly.

Deweyan Education Through Occupations

In the late 1890s, when he began to develop his interest in education through occupations, Dewey had recently been hired as professor of philosophy at the University of Chicago, a “star faculty” position. He had already achieved significant success as an academic philosopher and psychologist, and he was also becoming known as an education scholar, having founded, in 1896, the Laboratory School of the University of Chicago—later known popularly as the “Dewey School” (it was developed from a well-known progressive school that Dewey had taken over). At this point, Dewey was not yet the nationally known public intellectual that he would become a few decades later, but his substantial successes at the Dewey School, at which education through occupations formed the backbone of the curriculum, would contribute substantially to his later fame.

Before outlining the details of Dewey's program for education through occupations, it is worth discussing some of the influences that may have led him to develop this program. One significant factor was that manual training, a movement that aimed to teach students through the making of handcrafts

and the use of machines, was growing in popularity. Most of the strands of this movement were dedicated entirely to vocational training of future machine operators and engineers, but these trade-focused aspects of the movement did not interest Dewey at all, as they were opposed to the kind of broad, liberal civic education that he wanted to offer students. There was, however, an aspect of manual training that was significantly broader in its educational aims: Scandinavian *sloyd* (craft) teaching. Sloyd (Swedish, *Slöjd*; handicraft), which originally developed as an effort to prevent the loss of traditional craft skills, emphasized activities like woodworking and needlepoint within elementary school classrooms. The key goals of the sloyd movement were the inculcation of habits of industry and the development of artistic appreciation, both of which later became significant goals of Deweyan education through occupations.

The sloyd system had also caught the eye of the psychologist and philosopher William James, who spoke of it approvingly in *Talks to Teachers* (1899). James noted that manual training constituted an unprecedented improvement in education and that the sloyd system was the best of the manual training schemes then in existence. He further indicated that manual training was psychologically beneficial because of its requirement that students become active learners. As such, it was a useful antidote to more traditional approaches to education that simply required students to learn by rote. In addition to requiring action, James also felt that manual training was built on some of the fundamental instincts that children possessed, including their instincts to build, to possess, and to imitate.

James's strong endorsement of manual training may well have affected Dewey significantly. However, the fact remains that Dewey's program for education through occupations deviated substantially from both conventional technical skill-oriented approaches to manual training as well as sloyd teaching. Dewey was not interested in using occupations as a pedagogical device to inculcate technical skill, nor was he primarily interested in the habits inculcated by sloyd teaching; he was, instead, much more concerned about creating citizens who had a good understanding of the society in which they lived. Dewey felt that the citizenry of the 18th- and early 19th-century rural America had possessed a solid understanding of the occupations and technological processes that underpinned their society

but that this type of understanding had been largely swept away by technological progress. A seminal passage of *School and Society* (1899/1990) outlines the contrast that Dewey felt existed between the current and the previous understandings of technological processes:

Instead of pressing a button and flooding the house with electric light, the whole process of getting illumination was followed in its toilsome length from the killing of the animal and the trying of fat to the making of wicks and dipping of candles. The supply of flour, of lumber, of foods, of building materials, of household furniture, even of metal ware, of nails, hinges, hammers, etc., was produced in the immediate neighborhood, in shops which were constantly open to inspection and often centers of neighborhood congregation. The entire industrial process stood revealed, from the production on the farm of the raw materials til the finished article was actually put to use. (p. 12)

Naturally, Dewey was not interested in simply recapturing an understanding of pastoral life in America for its own sake. The goal, rather, was to allow the future citizens to explore how their society worked *presently*, which explains Dewey's (1899/1990) definition of an educational occupation as "a mode of activity on the part of the child which reproduces, or runs parallel to, some form of work carried on in social life" (p. 132). In an early pamphlet that had been written by one of Dewey's collaborators, Franklin Ford had spoken of studying society as though it were a steam engine, and this was a key goal of education through occupations. In sum, Dewey's effort to get children to understand industrial technology could be described as an effort to create "technological transparency"—a state in which a person understands the sociotechnical systems that lie behind everyday life.

An example of an occupation that was actually used at the Dewey school to work toward technological transparency was the making of cloth, which Dewey considered a paradigm case of industrial production. The students would begin their work by familiarizing themselves with the raw material; the teachers helped them experiment with unprocessed cotton plants and wool. Teachers would then slowly guide the children through the process of reinventing and rediscovering the steps necessary to turn the raw materials into cloth (e.g., wool carding, cotton ginning, spinning, and working the loom). As indicated

above, the aim of this activity was not cloth-making skill but rather developing insight into the nature of industrial production. Importantly, this insight was not supposed to be merely technical but also social. Two former teachers at the Laboratory School, Katherine Mayhew and Anna Camp Edwards, highlight this point in *The Dewey School* (1936). They note that children not only traced the technological innovations involved in industrial development but also the social consequences of this development, with careful attention being paid to the people who had been marginalized or exploited by these systems of production. Clearly, education through occupations, much like the rest of Dewey's social and educational program, had a substantial leftward tilt.

In addition to aiming toward technological transparency, Deweyan education through occupations had a number of other subsidiary goals. Like the sloyd system, Dewey's program aimed to foster habits of discipline and cooperation among children, as well as aesthetic appreciation of the objects which they built and with which they worked. More important, however, it served to foster a spirit of experimentation and inquiry—children were constantly called on to think through and act on the concrete problems (and some teacher-contrived problems) that their simulated occupations presented. These skills in scientific inquiry were viewed as invaluable by Dewey; to think through social problems, the citizen of the future needed to be an effective scientific inquirer.

In sum, Deweyan education through occupations aimed to produce competent, cooperative citizens who understood how their society worked. This understanding would enable the child to become a person who was able to exercise a great deal of “positive freedom,” or, in other words, who was capable of thinking and acting effectively and cooperatively.

The Dominant Approach: Education for Occupations

Although many aspects of Dewey's educational philosophy, particularly his pronouncements on child-centered education, were very popular, his program for education through occupations received little acceptance outside the confines of the Laboratory School itself. Although there was significant interest in using manual training as a form of general education, Dewey's program suffered from serious practical difficulties. It was labor intensive for teachers and difficult to enact at the level of secondary

schooling. However, an even more salient factor in Deweyan education's limited success was the emergence of a vocational education program that placed an overwhelming emphasis on job training. By the 1920s, much to Dewey's dismay, advocates of narrow job-focused vocationalism had squeezed out the more general, Deweyan approach—in America, at least, education *through* occupations was replaced by education *for* occupations. Given the obviousness of what education *for* occupations entails, there is no point in discussing its goals at length, but it is worth outlining a few of the principal reasons why this form of education became so popular in early 20th-century America.

One major reason was strong support from American business leaders. The National Association of Manufacturers was inspired by the success of the German education system, which was rigidly separated into academic and vocational tracks. American industrialists hoped that technical training would yield a growth in worker skills that would help meet increased industrial competition from Germany and England.

The emergence and popularization of the concept of efficiency also played a role. Adapting Frederick Taylor's concept of efficiency, Leonard Ayres, a muckraking journalist, wrote *Laggards in Our Schools* (1909), in which he made the argument that the high number of dropouts in the schools constituted a waste of human resources. One of the obvious solutions to the problem pointed out by Ayres was to remove the academically oriented general education programs that were, apparently, creating the “laggards” and to replace them with vocational training programs that would instill useful skills and reduce the system's supposed inefficiency. The nascent educational testing movement was also able to play a substantial role here, as fitness for vocational education could be determined through these tests, producing an efficient allocation of people into social roles.

Conservative social thinking also had a significant impact on the rise of vocational education. The racist sociologist Charles Ross, who believed that school needed to become a more effective means of controlling potentially chaotic elements of the population, was a formative influence on some of the leading lights of the vocational training movement, including David Snedden and Charles Prosser. The concern for order is evident in Prosser's text *Vocational Education in a Democracy* (Prosser & Allen, 1949), in which he offers the following formula: “Reduced

idleness → Increased social assets → Improved living conditions → Greater stability” (p. 100).

Given these sorts of pronouncements on the part of theorists, as well as the vocational system’s general tendency of ensuring that working-class children got working-class jobs, it is not surprising that working-class people often resisted the vocationalization of the public school system. The movement’s widespread support among business and educational elites, however, ensured that it would be difficult to turn back the tide, and variations on this approach prevailed in American public education throughout the first half of the 20th century.

Anton Makarenko’s Tough Love

The educational program of Anton Makarenko represents a complete departure from both the work of Dewey and from that of American vocational educators like Snedden and Prosser. Although Makarenko’s program was, indeed, one of education *through* occupations, he differed substantially from Dewey in that although Deweyan education used small occupational tasks to work toward a relatively flexible set of skills and dispositions that would be useful for democratic citizenship, Makarenko’s system was strictly intended to serve the ends of the Soviet state. Nonetheless, especially given the population with which he worked— orphaned and delinquent children—Makarenko’s educational accomplishments are worthy of consideration.

In 1920, Makarenko began his career as an educational innovator, rather inauspiciously, after his own complaints to the local department of education resulted in the department head’s challenging him to take up the directorship of a new reform school for dispossessed and orphaned children. Makarenko had no experience dealing with this type of population, and an incident from the early days of the school is revealing in this regard. When an older student insolently refused Makarenko’s request to cut firewood, Makarenko lost his temper and punched him in the face. The student, despite being physically much stronger than Makarenko, reacted with shock and begged Makarenko’s forgiveness. This incident had a great impact on the boys of the school, and Makarenko theorized that his violent outburst allowed them to recognize him as a fellow human being who, like them, had human failings. From this moment on, the boys began to follow Makarenko, and the struggling school began to thrive.

When he began the school, Makarenko did not have a fully formed educational theory that he was attempting to apply, but he was strongly loyal to Soviet political ideals. As a result, life in Makarenko’s school emphasized group loyalty, equality, and cooperation above all. Makarenko’s major preoccupation was to form the students into a cohesive and effective group, and virtually all of the tasks they were set were aimed at this goal. Life at the school did not emphasize formal learning; Makarenko’s descriptions of the children’s activities are long on collective labors that the boys undertook outdoors and scant in terms of accounts of formal instruction. In addition to their daily labors, the boys built their *esprit de corps* by executing quasi-military interventions in the area surrounding the school, shutting down illegal alcohol stills in peasant huts and reoccupying land illegally appropriated by crypto-bourgeois farmers.

As Makarenko’s school grew, this quasi-military aspect, which Makarenko used to build group loyalty, increased in prominence. The students would engage regularly in military-style maneuvers on the improvised parade ground, and Makarenko eventually introduced a system of detachments and commanders that was used for the maintenance of order and discipline during work tasks. The outcome of work tasks was also described in military terms, with different cadres “battling” to make production quotas in the school’s workshops. Makarenko was certainly not an advocate of personal freedom or dissent and continually emphasized the importance of students’ loyalty to the school’s collective enterprise and to Soviet ideals.

Despite the militarism of Makarenko’s pedagogical work, there were a number of innovative elements. Although he exercised authority with a heavy hand, he was close to the students and emphasized his equality with them. In one illustrative anecdote, Makarenko (1933/2002) excoriated a student who brought him a modest gift of some fried fish:

Whose frying pans do you use? Your own? No—everyone’s! And the sunflower oil you wheedle out of the cook—whose is that, d’you think? Everyone’s, of course! And the wood, the stove, the pails? Well—what have you to say to that? But it’s your uncomradely spirit that’s worst of all. (p. 26)

Makarenko also insisted on being completely ignorant of his students’ (usually criminal) pasts. Although his students were deeply marginalized members of a society that had been mired in chaos

for years, Makarenko had faith that they would be cured by the healthiness of the life within the collective that he had set up. He was also tremendously forgiving of his students' numerous bad acts. The students were often causing trouble with the neighboring peasants, which forced Makarenko to intercede, and in more than one case, Makarenko readmitted students who had left the school to pursue lives of crime.

Although Makarenko could be said to share some common ground with Dewey and other contemporary theorists in that he took an experimental approach to work-based education, his hostility to conventional educational theory constitutes a major point of contrast. Throughout *Road to Life*, Makarenko gleefully recounts anecdotes in which well-intentioned but naive education officials or trainees attempt to offer some suggestions about how the school might be run. In every case, Makarenko dismissed any theoretical insights that these visitors might have had and offered condescending accounts of how the visitors were eventually charmed out of their theoretical commitments by the success of his method and the school's tough but engaging students.

Makarenko's oppositional stance made him some early enemies in local departments of education, but he eventually profited enormously from his position once Stalin had fully consolidated power. Makarenko's policy of subordination to the collective and his overall militaristic orientation fit perfectly with the emerging Stalinist values, and his humorous but honest account of the founding of his schools, *The Road to Life* (1933/2002), won the hearts of Soviet readers. This success was understandable; given the difficult population that he was working with, Makarenko's achievements were stunning. Despite his unorthodox and, at times, unethical and authoritarian teaching strategies, his faith in the transformative power of a strong collective generated meaningful educational results for a very challenging group of children.

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See also Dewey, John; Experiential Learning; James, William; Marx, Karl; Progressive Education and Its Critics; Vocational Education

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PROGRESSIVE EDUCATION AND ITS CRITICS

Progressive education is a broad theoretical and practical approach to education that has a long intellectual history. Focusing originally on the nature of the child and human experience, it developed into an approach to elementary and secondary schooling (K–12) that now extends to undergraduate programs. Never clearly defined or completely unified, in the United States the progressive movement came to prominence during the 19th century. It dominated the early part of the 20th century but receded in the late 1950s. While the movement never reestablished its earlier preeminence, it continues to this day. Some philosophers of education even view it as the current educational status quo, at least rhetorically and ideologically if not practically. Its legacy is seen in the deschooling, children's rights, and philosophy for/with children movements, but it also influenced constructivism, the project method, cooperative learning, and emergent and negotiated curriculum.

This entry discusses the historical roots of progressive education, the development of progressive education in the United States, the critics of progressive education in the United States, and the shift away from progressive education.

Historical Roots

As the earliest precursor to progressivism, Aristotle (384–322 BCE) distinguished education from training. Whereas the former results in virtuous character, the latter results in intellectual excellence. More specifically, he argued that individuals develop virtuous character by practicing virtuous activities. To have virtuous character is to be practically wise; it is to consistently judge the right thing to do, at the right time, and in the right way. Practical wisdom achieves a mean between diametrically opposed extremes. According to Aristotle, practical wisdom has a social dimension; it is informed by the recognition of human interdependence. Virtuous individuals enter into perfect friendships—motivated by more than pleasure or utility—that serve as the basis for moral and political community.

The seeds of progressivism were sown in the Renaissance. This is particularly evident in the thought of Michel de Montaigne (1533–1592), Francesco Petrarch (1304–1374), and Giovanni Pico della Mirandola (1463–1494). Montaigne conceived of education as the art of living. He stressed that an individual should become well-formed rather than well-filled and, thereby, develop qualities of resilience, flexibility, and sound judgment. Montaigne introduced the defining progressive pedagogical idea that children should be instructed indirectly by means of their interactions with social, cultural, and physical environments. The onus is on the child's tutor to (a) place the child in an engaging environment, (b) closely observe what the child is learning, and (c) determine how to alter the environment based on what should be learned next.

The developments of the 17th and 18th centuries represented by Johann Amos Comenius (1592–1670), John Locke (1632–1704), and, most prominently, Jean-Jacques Rousseau (1712–1778) were also important. Rousseau was a reader of Montaigne and Locke. Locke viewed the mind as a blank slate and held that all knowledge resulted from experience. To some degree, Rousseau explores the educational implications of Locke's epistemic thesis in *Emile, or on Education* (1762/1979). *Emile* is an idealized account of the education of Emile

and his future wife Sophie; Rousseau (1762/1979) describes it as “a visionary's dream about education” (p. 34). Emile's education is overseen by Rousseau the tutor. Emile is raised to become a “natural man” before becoming a “civic man” (p. 39). He is taught to recognize his absolute existence and then to acknowledge his relative value (i.e., his value in relation to others); he exists for himself first and then for others. It is because Emile's education proceeds from nature to society that Rousseau thinks that it develops qualities of integrity, decisiveness, and consistency. In contrast, the education of society “is fit only for making double men, always appearing to relate everything to others and never relating anything except to themselves alone” (p. 41). If civil man “lives and dies in slavery,” then Emile, having been educated according to the natural order, possesses autonomy and equality (p. 42).

With *Emile*, Rousseau demonstrates that individuals should be educated for lives that include the vicissitudes of fate; the necessity of labor; the desirability of marriage, family, and friendship; and, in the case of men, the responsibilities of citizenship. In *Emile*, he argues that the only way to “prepare” for such lives is to engage in present experiences wholeheartedly. Rousseau cautions traditional educators that their intense preoccupation with preparing the child for mature adulthood leads them to neglect the intervening and formative years. He reminds his readers that the dispositions of humane adulthood—compassion and conscience—develop only if the individual fully experiences infancy, childhood, and adolescence. Rousseau the tutor gives sustained and serious attention to what Emile—the infant, child, and adolescent—perceives, comprehends, needs, and desires. Like Montaigne, Rousseau anticipates Dewey's thesis that the first step in shaping children is to observe them in their most natural state. Unlike Rousseau, Dewey recommends that educators exercise judgment in determining which adult influences children should be exposed to.

Rousseau theorized that an individual's motivational structure altered according to the developmental stages of infancy (birth to 3 years), childhood (3–12 years), prepubescence (12–15 years), and adolescence (15–20 years). Infancy and childhood are characterized by dependency, prepubescence is characterized by curiosity, and adolescence by desire, love, and friendship. Infants and children are motivated by necessity: They seek to maximize pleasure and minimize pain, and for this reason, they are educated by nature. Prepubescents are motivated

by utility: They are curious about the things that they perceive to be in their interest. Adolescents are motivated by a desire to do what is morally good, requiring them to learn from the whole of humanity. Although each developmental stage has its own perfection, throughout education, the aim is to cultivate autonomy tempered by compassion.

Rousseau's *Emile* was widely translated and vastly influential. Its reception was both positive and negative; in France, it was publicly burned. One educator influenced by Rousseau's *Emile* was Johann Heinrich Pestalozzi (1746–1827). Unlike Rousseau, Pestalozzi was a father and the founder of several schools. He believed that social institutions need not oppose humankind; rather, they could be used to support the full expression of our humanity. Pestalozzi reconstructed the school so as to educate the whole child. Like Rousseau, he wrote an educational novel, *Leonard and Gertrude*. The heroine, Gertrude, is a wife and mother immune from the corrupting influences of gambling, drinking, theft, vanity, and greed. Her virtuous intelligence makes her a force for good in the lives of her husband, children, friends, and village. The village school comes to be modeled on the interactions and activities within her home. Pestalozzi's novel corrects Rousseau's gender bias and develops some of his insights. In particular, it endorses caring relationality as an alternative model for the artful, or well-lived, life.

Friedrich Froebel (1782–1852), the progressive educational theorist, visited Pestalozzi's schools. Froebel went on to develop his own progressive philosophy and practice, which culminated in his theoretical work *The Education of Man* (1826). He conceived and created the first kindergarten, stressing the importance of play in educating young children (now a prominent feature of progressive classrooms).

John Dewey (1859–1952) is perhaps the most influential philosopher of progressive education, despite the fact that there was considerable misunderstanding of his ideas (which he attempted to rectify in his volume *Experience and Education*). Dewey was influenced by Aristotle, Montaigne, Rousseau, Pestalozzi, and Froebel, and by his contemporaries, in particular, Francis Parker (1837–1902), William James (1842–1910), George Herbert Mead (1863–1931), and Jane Addams (1860–1935). James's evolutionary psychology was particularly influential on Dewey's constructivist theory of learning. Persuaded by evolutionary theory, James argued that humans are ultimately practical: They always seek to adapt

to their physical and social world. Dewey sought to create the conditions for the study of children's impulses and adaptations in the Laboratory School that he developed at the University of Chicago. Like Pestalozzi, he modeled the school on the ideal home, "where the parent is intelligent enough to recognize what is best for the child, and is able to supply what is needed" (Dewey, *Middle Works*, 1899–1924, hereafter MW, Vol. 1, p. 23). Students participated in gardening, cooking, interior decorating, and information sharing—occupations fundamental to the general interest of the school. Dewey was assisted in this endeavor by his wife Alice Dewey (1859–1927) and Ella Flagg Young (1845–1918), a teacher who went on to become superintendent of schools in Chicago from 1909 to 1915. Dewey's greatest contribution to progressive education is his formulation of its underlying philosophy.

Dewey articulated the aim of progressive education as more education or, alternatively, as growth. He defined growth as a meaningful and purposeful engagement with experience. He characterized meaningful and purposeful engagement by an intelligent exploration and adaptation of the potentialities inherent in experience that contribute to the realization of more meaningful and more purposeful experiences, that is, occasions for further growth. Put simply, growth begets more growth. Experiences conducive to growth invite the mutual adaptation of an individual's capacities and interests and his or her environmental conditions. Having little control over students' capacities and interests, teachers must determine and regulate environmental conditions, including the use of space, selection of materials, and daily and weekly routines. These decisions should be based on teachers' observations of students, and what they predict will provoke the greatest degree of mutual adaptation. Students are encouraged to become actively and reflectively involved in their own learning. Their learning encompasses intellectual, emotional, practical, moral, linguistic, and social development. The approach is characteristically summarized by Dewey: "Learning?—certainly, but living primarily, and learning through and in relation to this living" (MW, Vol. 1, p. 24).

Dewey formulated an ideal of democracy that supported progressive aspirations. He defined democracy as "a mode of associated living, a conjoint communicated experience" and argued that democratic social arrangements are superior because they promote a better, more inclusive and diverse, quality of experience (MW, Vol. 9, p. 93). Dewey

had a number of interpreters, the most famous of whom is William Heard Kilpatrick (1871–1965), who applied Dewey's philosophy in the project method he developed.

The Progressive Movement in the United States

The history and character of progressive education varies in different countries. In the United States—the focus of this section—it arose at a time of unprecedented immigration, industrialization, scientific advancement, and technological innovation. This period of change and opportunity inspired the conviction that future citizens would need to adapt, learn from, and create new experiences and that the role of education was to furnish them with the necessary inquiry skills, dispositions, and sound judgment. A widespread commitment to compulsory public education emerged that reflected a growing national interest in educating *all* individuals for democratic citizenship—something traditional schools were conspicuously failing to achieve. Traditional school classes were large (upward of 60 students), formal, and regimented; the teaching of manual, industrial, and agricultural skills was conspicuously absent; teachers were untrained; and classroom pedagogy was not based on developments in educational science and psychology. During the 19th century, the term *progressive* came to distinguish new educational approaches from traditional ones. The new approaches were wide-ranging and experimental, and they were intended to support a socially progressive society.

Key to these new approaches was the recognition that children are natural and self-directed learners. Innately curious, children are motivated to explore their environment by observation, play, conversation, drawing, singing, and imitation. Dewey wrote, “The child is already intensely active, and the question of education is the question of taking hold of his activities, of giving them direction” (MW, Vol. 1, p. 25). Children's learning must be acknowledged, directed, and improved. According to Dewey, the way to this is by “centering upon the conditions which exact, promote and test thinking. Thinking is the method of intelligent learning” (MW, Vol. 9, p. 159). Experience initiates thought because it involves the doing of things, and the doing of things demands thinking; activity necessitates the resolution of new problems by drawing on sufficiently familiar knowledge.

Thoughts, unlike facts, are not transferrable. Thinking requires that the individual seeks a way forward by wrestling with the difficulties of a situation. Thus, “*all* thinking is original” (MW, Vol. 9, p. 166). The child is a discoverer, even if everyone knows what he or she is discovering for the first time. If all thinking is original, then each child is a distinctive being with a unique experiential history and trajectory. Thinking may be original, but it does not happen in isolation. It is initiated by experiences involving a vast array of communicative interactions. Dewey combines the originality of thought with the social instinct of children to conclude that

when the parent or teacher has provided the conditions which stimulate thinking and has taken a sympathetic attitude toward the activities of the learner by entering into a common or conjoint experience, all has been done which a second party can do to instigate learning. (MW, Vol. 9, p. 167)

In modern classrooms, progressive educators have the difficult task of securing conditions that stimulate the coordinated growth of a community of unique individuals.

In contrast, traditional education posits reality as atemporal and unchanging, and relatedly, it posits knowledge as objective truths that, having already been discovered, must be transmitted from one generation to the next. The traditional classroom, with its bare walls, rows of desks, and lack of movement, is designed “for listening”; students attend to the teacher and curriculum to be “filled” with inert, predetermined truths (MW, Vol. 1, p. 21). A premium is put on large numbers of students being uniformly still and silent as they are thought to acquire knowledge “as theoretical spectators” (MW, Vol. 9, p. 140). Students memorize and recite subject matter based on trust in the teacher's authority.

Dewey criticizes traditional education for being dominated by a

medieval conception of learning. It is something which appeals for the most part simply to the intellectual aspect of our nature, our desire to learn, to accumulate information, to get control of the symbols of learning; not to our impulses and tendencies to make, to do, to create, to produce, which are in the form of utility or of art. (MW, Vol. 1, p. 18)

Given the primacy and the strength of our impulses and tendencies—to make, to do, to create, and to produce—students of traditional education

unconsciously study “the conventions and standards of the school system and school authority” (MW, Vol. 9, p. 163). They wonder about “how to *seem* to meet” the expectations of teachers (MW, Vol. 9, p. 163). Although traditional educators claim to have an exclusive interest in the intellect, progressive educators view their approach to learning as negatively affecting character because it motivates a psychologically divisive interest in cultivating appearances.

In summary, progressive education challenges the metaphysical, epistemological, ethical, and political foundations of traditional education, returning us to the idea of an artful or well-lived life. Progressive education conceives of reality as temporal; it rejects all dualisms and stresses intelligence over knowledge. At its core is a commitment to the creation of present experiences that expand the meaningfulness and efficaciousness of future experiences. Thus, progressive educators engage children in experiences that call for action, inquiry, experimentation, and collaboration. This is what Dewey describes as the scientific method. Progressive schools and classrooms repudiate the authoritarianism of traditional education. Their democratically organized embryonic communities provide students with opportunities to participate in coordinated and cooperative purposeful action. Students live and learn to live democratically by developing the dispositions needed for its practice.

Critics of the Progressive Movement in the United States

Progressive education has been criticized by members of the movement itself, most prominently, George Counts (1889–1974), Boyd Bode (1873–1953), and Dewey. Counts and Bode argued that it focused on the individual at the expense of formulating a relevant social and political philosophy. They felt that progressives had failed to refashion education as an instrument of democratic reform.

Dewey criticized progressives for failing to appreciate the values inherent in traditional education and the new and more difficult challenges created by their own pedagogical approach. More specifically, Dewey criticized progressive educators for interpreting their students’ spontaneous activity as a mark of freedom. He urged them to prioritize intelligent activity and to engage students in activities that would move their experiences toward greater organization. No experience, he argued, is educative unless it tends toward greater understanding and a

more orderly arrangement of that understanding. Dewey argued that a school curriculum was a model for this orderly arrangement. The school curriculum should remain a goal of progressive education, even though, it is also a goal of traditional education.

Progressive education inspired its fair share of traditional reactionaries, Arthur Bestor (1908–1994) being the most vocal. He argued that the ultimate purpose of education is intellectual training, understood as the cultivation of thinking by studying the academic disciplines, and he believed that progressive education completely undermined this endeavor. The new and expanding departments of educational science, psychology, assessment, and measurement were also critical. For example, new scientific instruments revealed that students of traditional education did develop a passion for learning—they engaged with subject matter in a sustained, disciplined, and deep way—and that progressive educators frequently failed to teach the most basic skills. Unfortunately, these scientific studies overlooked the basic tenets of progressive education: that each experience is a singular event that lives on in unpredictable and unfathomable ways and that individuals are unique. Philosophers of education have become increasingly disillusioned with the optimistic naïveté of progressive education. Informed by advances in psychoanalysis, materialist historicism, feminism, postmodernism, critical theory, queer theory, and race theory, educational philosophers contest the progressive focus on democracy (as opposed to social justice and equity), teleological reasoning, and the scientific method.

Historically, criticism of progressive education has spiked whenever national interests are under threat, during World War I (1914–1919), the Sputnik crisis (1957), and the publication of *A Nation at Risk* (1983), for example. In 1957, progressive education was held responsible for the United States’s scientific and technological inferiority to the Soviets. In 1983, declining rates of literacy and numeracy led to a renewed emphasis on implementing minimal national learning standards.

Conclusion

Ironically, early 20th-century progressive education spawned many of the developments that contributed to its demise, most spectacularly, the scientific study and management of education. As a result, the opportunity to make discretionary curricular and pedagogical judgments has been eroded in the

name of standardized curriculum, competencies, and testing, the national measurement of teacher effectiveness and the professionalization of school leadership. Today, progressive philosophy of education is kept alive by—among others—Philip W. Jackson, Maxine Greene, Nel Noddings, and David T. Hansen. Together, such philosophers of education have inspired a generation of teachers committed to the uniqueness of children and to intelligent educational practices that support democracy in its most ideal sense.

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See also Addams, Jane; Aristotle; Democratic Theory of Education; Dewey, John; James, William; Pestalozzi, Johann H.; Rousseau, Jean-Jacques

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PROJECT METHOD

The project method, also discussed under headings like project work, project approach, and project-based learning, is one of the standard teaching methods. It is a subform of action-centered and student-directed learning and an enterprise in which children engage in practical problem solving for a certain period of time. Projects, for example, may consist of building a motor boat, designing a playground, or producing a video film. For the most part, projects are initiated by the teacher, but as far as possible, they are planned and executed by the students themselves, individually or in groups. In project work, the students generate tangible products that frequently transcend disciplinary boundaries and are typically displayed to the general public on Parents' Days or at school fairs. Unlike traditional methods, projects focus on applying, not imparting, specific knowledge or skills, and, in comparison with lecture, demonstration, and recitation, they place greater emphasis on the enhancement of intrinsic motivation, independent thinking, self-esteem, and social responsibility. This entry discusses the origins of the project method, three basic models of the method, criticism of William H. Kilpatrick's universal model, current approaches to the project method, and recent research on the method.

Origins in Europe

Historically, the project method emerged in 1577 when master builders founded the Accademia di San Lucca in Rome to advance their social standing by developing their profession into a science and to improve the education of their apprentices by offering lessons in the theory and history of architecture, mathematics, geometry, and perspective. To bridge the gap between theory and practice, science and reality, the architects subsequently expanded their repertoire beyond teacher-centered methods and

transferred their daily work of designing buildings from the studio to the academy so that the students acquired, through learning by doing and simulating real-life situations, already at school the experience and dexterity they later needed as professionals. These beginnings indicate that the project method—like the experiment of the scientist, the case study of the lawyer, and the sandbox exercise of the staff officer—has its origin in the academization of a profession and that the concept of teaching by projects is not the result of abstract philosophical deliberations, for instance, of Jean-Jacques Rousseau, Friedrich Froebel, or John Dewey, but of practical thinking of vocational education teachers who tried to activate their students' minds and make their training interesting, lively, and, as far as possible, authentic and useful.

It took, however, more than 150 years and the transfer from Italy to France before project work evolved from a sporadic and voluntary event for few people to a recurring and compulsory part of the curriculum for all students. Indeed, it was only in 1763 that the advanced students of the Académie Royale d'Architecture in Paris regularly got design problems (now known as *projets*) to demonstrate that they were fit to apply the principles of composition and construction they had previously learned. From the start, the project method served two functions: first, to supplement the bookish and theoretical training of the students and, second, to test their artistic and practical capabilities. In fact, the most difficult, and most cherished, part of the final examination the French students of architecture and, since 1829, students of engineering (at the École Centrale des Arts et Manufacture) had to cope with was the imaginative design of fountains, churches, and palaces; of turbines, cranes, and bridges.

Three Basic Models

Studying the best European practices, William B. Rogers, the founder of the Massachusetts Institute of Technology (MIT), discovered the “project” at Karlsruhe and Zürich and, in 1865, was the first to adopt it as a new method of instruction in the United States. In 1876, his successor as president of the MIT, John D. Runkle, noticed a disturbing absence of manual skills among his engineering students and established a school of mechanical arts to remedy the defect. More important, he propagated the introduction of manual training as a vital branch of the common school curriculum and thus, at the same time, paved the way for the dissemination of

the project method top-down from the college to the school and, eventually, the kindergarten. During the four decades that followed, notable educators established three distinct types of project work that have retained their appeal and importance until today.

The *linear model*, developed in 1879 by Calvin M. Woodward, professor of mechanical engineering at Washington University in St. Louis, Missouri, and founder of the first Manual Training School in St. Louis, complied with the main didactic principle that successful teaching must progress from the easy, simple, and known to the difficult, complex, and unknown. At the Manual Training High School, the classes in handicraft and mechanical drawing were therefore conducted in two steps. Following the “Russian system,” the students initially learned the alphabet of tools and techniques by passing through a series of basic exercises, and then, they got time to carry out “projects.” Woodward regarded the projects as synthetic exercises. Earlier, students had learned skills in isolation and under direction of the teacher; now, they applied these skills in context and on their own, by, for example, designing and making book racks, fire tools, or steam engines. In this way, the training advanced systematically from principles to applications, or—in Woodward's words—from “instruction” to “construction.” At the close of the fourth year, the manual training course was completed by what he called the “project for graduation.”

The *holistic model*, put forward around 1900 by Charles R. Richards, professor of Manual Training at Teachers College, Columbia University, New York, and influenced by Froebel and Dewey's concept of active occupations, replaced Woodward's consecutive system of instruction and construction by an integrative system of “natural wholes” so that the students could work together and participate in the planning and executing of the project right away. As proposed by the teacher, pupils of the Horace Mann Elementary School decided, for example, to reconstruct a Greek temple. Having planned the project and acquired the necessary skills, each child made a column, a capital, and a gable out of clay, as well as a segment for the foundations, the wall, and the roof. Evaluating the results, the students picked the best pieces of work, cast them in plaster, and put them together in a temple three yards long. According to Richards, the pupils were motivated by the fact that they cooperated in a meaningful way and obtained at the appropriate moment that knowledge and skill they needed to achieve their

goal. Consequently, “instruction” did not—as with Woodward—precede the project but was an integral part of “construction.”

The *universal model*, propagated by William H. Kilpatrick of Columbia’s Teachers College in his world-famous article “The Project Method” of 1918, defined the project broadly—calling it a “heartily purposeful act.” Whatever children undertook, as long as they did it with purpose, was a project. No aspect of valuable life should be excluded. For Kilpatrick, the project was not a specific method restricted to manual training and certain stages of teaching but a general method that could be used all the time, in all subjects, and comprising all forms of behavior and learning—from making a dress, solving a mathematical problem, and writing a letter to memorizing a poem, watching a sunset, and listening to a sonata. Apart from reading, writing, and arithmetic, there was no prescribed curriculum, and the project work did not even require active doing. Children who presented a drama realized a project, as did those children who sat in the audience and enjoyed the play. Ideally, the project was proposed and carried through by the students themselves, without any help from the teacher, because students could increase their self-confidence, self-reliance, and self-efficacy and improve their ability to initiate, plan, execute, and judge only if they had “freedom for practice” and exercised “practice with satisfaction.” Kilpatrick believed that these abilities were essential for the preservation and advancement of democracy.

Kilpatrick’s Failure and America’s Democratic Mission

From the outset, the third model—unlike the first two—was heatedly disputed among conservative as well as progressive educators. Even the two colleagues at Teachers College whose psychologies of learning Kilpatrick used to buttress his position raised their voices and objected to his broad definition and his child-centered concept. Edward L. Thorndike and John Dewey, commonly characterized as proponents of opposing educational philosophies, unanimously warned of employing Kilpatrick’s project method as the only or even the major teaching device, since learning limited to incidental and instrumental actions was likely to be too disjointed, scattered, and haphazard to provide the children with the continuous development they needed for a thorough mastery of the fundamentals

and a deeper understanding of the issues and subjects involved in the project.

Generally speaking, and summarizing the criticism put forward by educators such as Ernest Horn, W. W. Charters, Boyd H. Bode, Ernest E. Bayles, Philip W. Jackson, and Ellen C. Lagemann, Kilpatrick’s project method had four serious shortcomings:

1. It accepted as valid only the momentary interests of the children and claimed that high intrinsic motivation would guarantee best results in learning.
2. It offered no practical solutions for the everyday business of the teacher pertaining to subject matter, classroom management, and student performance.
3. It propagated a concept of freedom that encouraged the development of selfish and individualistic attitudes rather than the—intended—formation of democratic and social virtues.
4. It was a philosophy of education while pretending to be a method of teaching, promising help, advice, and guidance.

In the late 1920s, Kilpatrick recognized that he had made a mistake by extending the project beyond its traditional sphere and quietly refrained from using the term for his educational program. Despite scathing criticism by Dewey and others, and despite the fact that Kilpatrick’s concept has never successfully been implemented, his article of 1918 is still regarded worldwide as the classic text of the project approach and as the best statement of putting Dewey’s educational theory into practice.

In the United States, the call for practical learning was part of the national creed. Since the mid-19th century, Americans considered learning by book and rote as “aristocratic,” whereas they regarded learning by training and doing as “democratic” because it utilized the experiences of the productive classes, facilitated the advancement of practically inclined children, and promoted the formation of socially responsible citizens. Like laboratory and field work, the project method seemed to fulfill perfectly the public desire for life activity and equal opportunity for all.

No wonder that the project once again crossed the Atlantic and was fiercely debated, especially in countries struggling to overcome their autocratic or fascist past. In the 1920s, Soviet educators

appreciated the project as the ideal approach to accelerate the transition from Czarist feudalism to democratic socialism, but in 1931, they were silenced when the Central Committee of the Communist Party intervened and forbade the implementation of project curricula, declaring that project work was incompatible with the party's notion of systematic teaching and dogmatic indoctrination. Nearly 50 years later, in connection with the student rebellion, a powerful movement emerged in West Germany and, by explicitly mentioning Dewey's *Democracy and Education* and Kilpatrick's "Project Method," identified the project taken in its wide sense as the one and only means to vitalize learning, humanize teaching, democratize school, and transform society. The movement rapidly spread to Denmark, the Netherlands, and Great Britain. In the 1980s, the project (broadly defined) experienced a revival in the United States, where the method (narrowly defined) had outlasted the crisis initiated by Kilpatrick in technical, agricultural, and science education.

Current Concepts and Empirical Findings

Today, the project method is being discussed primarily under two headings. As project approach, propagated by Lilian G. Katz and Sylvia C. Chard, the method refers to any "in-depth investigation of a real-world topic worthy of a student's attention and effort" that is taken up and carried through rather independently by a class, a group, or an individual student. (Chard's Project Approach website provides an overview of the approach and the resources for implementing it.) In preschool and kindergarten, the project could be used as the only method, but in elementary school, high school, and college, it has to be supplemented by systematic instruction. Without knowing it, Katz and Chard follow in the footsteps of Woodward and his linear model. While systematic instruction addresses the deficiencies of students and ensures the acquisition of skills, they say, project work builds on the proficiency of students and stands for the unaided application of skills acquired earlier. But unlike Woodward, Katz and Chard do not confine the project to manual work and construction; the students are allowed to grapple with any real phenomenon they cannot explore and attend to through Internet and library research alone.

Developed in particular by teams around Phyllis C. Blumenfeld and John R. Mergendoller, project-based learning differs from the project approach in that it follows Richards's and Dewey's holistic

model and integrates both phases—the acquisition of skills and their application—into a single process. Frequently, the phrase *project-based learning* is interchangeably used with *problem-based learning*, but, in accordance with Dewey, one should clearly distinguish between both concepts. Whereas problem-based learning is inquiry centered and restricted to abstract problem solving, project-based learning is production centered and requires the use of theoretical as well as practical problem-solving strategies. Some educators still adhere to Kilpatrick's child-centered project method, yet in most cases, they advocate projects that—although "allowing for some degree of student 'voice and choice'"—are "carefully planned, managed, and assessed to help students learn key academic content, practice 21st Century Skills (such as collaboration, communication & critical thinking), and create high-quality, authentic products & presentations," according to the website of the Buck Institute for Education, whose work focuses on project-based learning.

Referring specifically to Dewey, Lev Vygotsky, and Jerome Bruner, all modern educators situate the project method within a constructivist-based theoretical framework. They regard students as active agents engaged in authentic tasks, solving real problems, and generating knowledge and skills in dynamic interaction with their physical and social environment, thus creating meaning of themselves and the surrounding world. They acknowledge, however, that the constructivist approach must be balanced by a concept of structured teaching and direct, strong instructional guidance.

According to recent research, project work meets, to some degree, the expectations of its proponents in that the method improves—besides factual learning—the students' motivation, self-confidence, and critical thinking, as well as their problem-solving, decision-making, investigative, and collaborative skills. But there is evidence, too, that there exist barriers hindering the achievement of the objectives intended and striven for, since neither students nor teachers always fulfill the necessary premises and qualifications completely. Teachers, for example, find it difficult to suggest and design challenging projects, monitor progress, give feedback and support when and where needed, create and maintain an atmosphere of study and work, and develop tools for assessing the results. Correspondingly, students often feel ill prepared and overwhelmed by the complexity of the tasks at hand; they may have no clue as to how to define the problem, choose the proper

methodology, find the necessary resources, revise plans and procedures if appropriate, keep deadlines, and present the results fittingly. After all, projects can fail, since few students are constantly disposed to self-directed, creative, innovative learning. In principle, students enjoy the freedom of action the project method offers them, but, as in traditional settings, they frequently employ strategies of bargaining, shirking, and playing dumb to lessen, avoid, or even resist the additional time, energy, and imagination required by project work.

Michael Knoll

See also Bruner, Jerome; Dalton Plan; Dewey, John; Problem-Based Learning; Productive Labor and Occupations: From Dewey to Makarenko; Progressive Education and Its Critics; Radical Constructivism: Ernst von Glasersfeld; Vocational Education

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PSYCHOANALYTICALLY ORIENTED THEORIES OF CHILD DEVELOPMENT

Psychoanalysis remains the most comprehensive psychological theory yet devised. It offers an explanation of psychological processes (the "model of the mind"), a developmental scheme (the psychosexual stages), and a method of treatment for mental and

emotional disorders originating in experiences during the various stages of human development from infancy to adulthood. Beginning with the origins of psychoanalysis in the pioneering work of Sigmund Freud, this entry discusses the paths that psychoanalytically oriented theories of child development have taken from Freud's time to the present day.

Sigmund Freud

Sigmund Freud (1856–1939), an Austrian neurologist and the founder of psychoanalysis, viewed himself as a scientist and believed that his theories would eventually find confirmation in neurobiology. His *Project for a Scientific Psychology* (1895) was an attempt to ground the building blocks of our mental lives in neurobiological mechanisms. This work was never published, as the neurobiology of his day was not adequately advanced to complete the task. The neurobiology of the late 20th and early 21st centuries has since confirmed many of Freud's most central ideas (see the discussion in Schore, 1997), representing a return to psychoanalysis and to his unfinished *Project*.

Freud believed that all psychological problems had their root in childhood and, thus, could be considered "developmental psychopathology." This idea has influenced all subsequent psychodynamic perspectives. His developmental theory is known as a "drive theory" because of his belief that all development is set in motion by the instinctual drives of early infantile sexuality. He believed that "ontogeny recapitulates phylogeny," that a child's developmental phases (ontogeny) recapitulated human evolutionary history (phylogeny).

For a fuller description of Freud's developmental scheme, see the entry on Sigmund Freud in this encyclopedia.

Object Relations Theory

Object relations theory originated as part of Freud's drive theory, the "object" being the libidinal object, the target of the drive. This perspective differs from Freud in its proposition that the primary human motivation is for object contact, not drive discharge. Object relations theory leads to a concept of the self, which develops through experiences with caretakers (objects). The structure of the self is formed from the internalization of early relationships. This idea is supported by infant research (especially Stern, 1985), which has shown that the infant is programmed to seek contact and relationships. Object relations

theory suggests that if good object relationships do not result from the parent–child attachment, the formation of the self will be arrested and will not function well.

Melanie Klein

Klein (1882–1960), a Viennese-born British psychoanalyst, saw drives as the force through which infants organize their internal fantasy worlds (she preferred the term *phantasies*, to denote that they are unconscious and to distinguish them from conscious fantasies). Her emphasis was on the experiences infants internalized from their object relationships.

One of Klein's most important contributions is the concept of *projective identification*. She believed that this phenomenon emerged as a result of negative developmental experiences, such as abuse, abandonment, and neglect that occurred before a person was able to acquire language (preverbal). She believed that when individuals have no language to communicate their internal struggles, they will unconsciously attempt to induce the feelings related to those early developmental experiences in another in order to be understood. An understanding of this phenomenon is critical to treatment of people who have lived through significant preverbal developmental impingements.

Donald Winnicott

The British pediatrician and psychoanalyst Donald Winnicott (1896–1971) added to psychoanalytic literature an emphasis on the importance of the environment to development. He believed that the individual and the environment are interdependent and that every person is involved in a maturational process that pushes the person to develop in a given direction. He used the term *holding* to describe the activities that mothers provide to their infants to support and strengthen their immature egos and the term *holding environment* to describe the overall conditions necessary for healthy development to occur.

From this perspective, an infant will *come into being* depending on whether conditions in the holding environment are adequate or inadequate. If the maternal care is overstimulating or neglectful, the resulting psychic overload can lead a child to experience intrapsychic trauma, for which it has no defenses. Winnicott used the term *good enough mother* to capture the middle ground that maternal caretakers need to find between subjecting the infant

to too much stimulation on the one hand and not providing enough responsiveness on the other. This middle ground of responsiveness is necessary for an infant to develop optimally.

When adequate holding takes place through development, the child acquires an authentic sense of being alive, which Winnicott referred to as the *true self*. If, however, adequate holding has not occurred and the infant must endure impingements of overstimulation or neglect, a *false self* develops: a self-deceptive mask that makes the person feel disconnected from his or her true self.

Current brain research is now offering confirmation that the growth and integration of the brain itself needs to be protected from too much stimulation, validating Winnicott's description of the maturational process as a general sketch for the interpersonal building of the brain.

Margaret Mahler

Mahler (1897–1985), a Hungarian-born physician and child psychoanalyst, de-emphasized the influence of drives, contributing instead consideration of genetic factors in her view of development. She proposed a scheme that included two tracks of development: separation and individuation. Her notion of separation does not refer to physical separation but rather psychological differentiation. The track of individuation leads to a child developing his or her own individual characteristics and intrapsychic structures.

Her theory of development begins with children in a state of undifferentiation from their caregivers during the first five months of life (the *autistic* and *symbiotic* phases) and progresses to the gradual achievement of separation and individuation occurring from the 5th to the 36th month, culminating in the acquisition of *object constancy*.

Object constancy is one of the most important concepts in psychoanalytic developmental literature. This refers to the ability to hold representations in the mind in the absence of the actual object and to acknowledge the separate existence of other people. When the primary caretaker is not available, this capability allows the child to cope with absences, interact with substitutes, remain regulated, and maintain confidence that the caretaker will return. The child internalizes a mental representation of the caretaker, which allows the child to tolerate separations. This is known as the acquisition of *psychological structure*, internal resources a child can turn

to in the absence of the caretaker. This concept is important clinically, especially in the treatment of personality disorders. Many people with personality disorders have not acquired object constancy, and their emotional and behavioral symptoms are a reflection of this unmet developmental need. Treatment must account for this deficit.

Otto Kernberg

Otto Kernberg (1928–) and his family fled Nazi Germany in 1939 for Chile, where he studied medicine, psychiatry, and psychoanalysis before emigrating to the United States in 1961. Perhaps, his most important contribution to psychoanalytic developmental theory is his delineation of three levels of personality organization.

In the higher level, the *neurotic* person has a well-integrated ego, a stable sense of self, and good social adaptation. A person at this level has acquired object constancy and is able to employ a higher order of defenses. This type of personality may be prone to experiences that serve to enfeeble, but the individual does not fragment and lose contact with reality when this occurs. These individuals have internal resources to turn to and are able to adequately manage personal difficulties when they arise.

In the intermediate level, the *borderline* person is less integrated, less stable in self-concept, and struggles with social interactions. A person at this level has not yet acquired object constancy and uses more primitive defenses, such as splitting, projection, and denial. This type of personality is prone to fragmentation when under stress.

In the lower level, the *psychotic* person's internal world is characterized by lack of integration, instability in self-concept, and profound difficulties in social interactions. These individuals are unstable, chaotic, and fragmented.

Many have wondered what the term *borderline* (as in "borderline personality disorder") refers to. This term captures the state of personality organization that lies developmentally between psychotic and neurotic organization. The clinical significance of this concept lies in the importance of determining the developmental level of a client's personality organization, which will have powerful implications for treatment planning.

Ego Psychology

Ego psychology flowed from Freud's structural theory, in which he delineated the structures of the mind

(id, ego, and superego). Ego psychology shifted the emphasis of Freud's original drive theory to a focus on the ego as the structure that relates directly to the interpersonal world. It is more concerned with exploring a person's personal realities and social interactions than it is with exploring intrapsychic depths. Ego psychology describes in detail the specific functions of the ego and its defenses, which became the focus for developmental theories. From this perspective, looking at the defense mechanisms a person uses will provide an approximation of the developmental age from which a person is operating.

Anna Freud

Anna Freud (1895–1982), daughter of Sigmund Freud, is a major voice of the ego psychology perspective. She made an important contribution to psychoanalytic developmental theory with her concept of *developmental lines*. She believed that development moves back and forth along multiple lines rather than staying on one linear path. In other words, a child can develop well in one area but not in another. She proposed that the progress a child attains on a given developmental line is the result of the interaction of drives, ego development, and the quality of the ego's relationship with the environment.

Developmental Theories of the Self

Theorists in this area split from classical psychoanalysis by rejecting the idea that the primary human motivation is drive discharge, believing instead that human beings are primarily motivated toward self-development.

Heinz Kohut/Self-Psychology

Kohut (1913–1981), an Austrian-born American psychoanalyst, proposed that a person's sense of *self* results from the empathic environment that parents create and provide for a child during development. The *self* is a structure within the mind that includes the content of one's experiences as well as id, ego, and superego.

The most important developmental concept Kohut contributed was the *selfobject*. The term is written as one word because a selfobject is an other that is experienced as part of the self and can meet essential psychological needs through development. Self-psychology posits that just as an infant does not have all it needs to survive physically in the world,

so too an infant does not have all it needs to survive psychologically. It needs an essential other (a selfobject, usually parents) to fill in missing psychological functions (*selfobject functions*). These functions help the developing child maintain a sense of self-cohesion. The empathy provided by caretakers is the key element in meeting a child's developmental needs.

This is an important concept clinically because clients will reactivate their unmet essential childhood needs in a psychotherapy relationship, using the therapist as a substitute selfobject to get needs met. This perspective is referred to as a "self psychology" because clients will gradually replace the selfobject and its functions with a self and its functions, a process that Kohut referred to as *transmuting internalization*.

Daniel Stern

The American psychiatrist Daniel Stern (1934–2012) brought empirical findings from infant research into developmental theory. He challenged Mahler's notion that infants are born in an undifferentiated state, proposing instead that an infant's sense of self is present from birth.

Stern used the term *domains* to describe developmental stages. The domains represent adaptive tasks the infant needs to accomplish at given points in time. His *domain of the emergent self* (0–2 months) is similar to Winnicott's idea of an infant "coming into being." During this time, infants are actively forming a sense of self. The *domain of the core self* (2–7 months) includes the emergence of social life, the ability to author one's own actions, the acquisition of self-coherence, and recognition of emotional states. During the *domain of the subjective self* (7–15 months), infants become aware that they have inner experiences, and a capacity for intimacy is formed. The *domain of the verbal self* (15–30 months) includes the acquisition of language. The *domain of the narrative self* connects the child to the worlds of storytelling, culture, beliefs, and values.

Two concepts are central to Stern's developmental perspective. First, he proposes the concept of *representations of interactions that have been generalized* as the building blocks of self-structure. The experience of being with an essential other forms representations of interactions that have been generalized, which gives the infant the ability to create an *evoked companion*, another who is present within oneself. Second, he emphasizes the importance of *affect attunement* as the essential experience necessary

for self-development, delineating specific behaviors that caretakers need to provide for attunement to occur.

Traditional Attachment Theory

According to traditional attachment theory, the primary human motivation is to survive and grow. This takes place as a result of a person's ability to adapt to his or her environment. Attachment theory includes consideration of biological, cognitive, and social factors in a child's development.

John Bowlby

Bowlby (1907–1990), a British psychologist, psychiatrist, and psychoanalyst, is the founder of attachment theory. His biological evolutionary perspective represents a departure from psychoanalysis, but he maintains a connection to psychoanalytic theory with his concept of *internal working model*, which is central to object relations theory. He proposes that infants internalize working models of the external world—cognitive schemas that are similar to the psychoanalytic concept of *representations*.

Bowlby believed that psychoanalytic theory did not pay enough attention to the role the environment plays in a child's development. He saw attachment as an innate behavioral system, the primary function of which is to provide the infant with proximity to the caregiver. *Attachment behaviors*, such as crying, clinging, and so on, serve the purpose of eliciting responses from caregivers. The attachment relationship provides a *secure base* from which infants can explore their environments. *Patterns of attachment* are gradually formed as a result of early attachment experiences with caregivers. Bowlby believed that these patterns (later delineated by Mary Ainsworth and Mary Main) determine the patterns that organize attachment behaviors for the rest of a person's life.

When infants are separated from caregivers, they will attempt to bring about reunion. If the caregiver is unavailable, a protest–despair–detachment cycle begins. Infants initially *protest* by employing attachment behaviors in an attempt to subdue separation anxiety. The infant will then scan the environment for signs that the caregiver may return. If the caregiver remains unavailable, the infant experiences *despair*, grief, and mourning. The child will become increasingly hopeless and may be inconsolable. If the caregiver still remains unavailable, the infant experiences intolerable psychic pain and may *detach* from

the external world. Psychopathology in Bowlby's view is the result of disturbances in attachment.

Neurodevelopmental Attachment Theory

Neurodevelopmental attachment theory represents a return to psychoanalysis, and to Freud's 1895 *Project*, in which he tried to ground his psychological theories in neurobiology. This theory seeks to delineate the brain systems that underlie the various mental functions that process the affect (feeling) states. It presents a synthesis of psychological, neurological, and biological views of the origin and development of the self.

Allan Schore

Schore (1943–), an American clinical psychologist and researcher, believes that development arises out of the relationship between the brain, the mind, and the body of both infant and caregiver. In his view, the primary function of attachment is to regulate the developing child's affect states. If the primary caregiver provides repeated care that dysregulates the infant's right brain, this will create psychopathology.

Schore brings together much of psychoanalytic literature in his developmental conceptualization. For example, he sees the self as developing within the context of what Winnicott referred to as the *holding environment*. He stated that a large body of studies now confirms the developmental neurobiological relevance of Kohut's concept of the *selfobject*. He also believed that Stern's concept of *affect attunement* was essential as the primary caregiver must be psychobiologically attuned to the infant's needs for development to proceed. In Schore's view, the early social environment affects brain development, especially during *critical periods* during which the infant must have certain types of responses to develop. The essential developmental task of the first year of life is the creation of a secure attachment bond. These attachment experiences shape the organization of the right brain, which Schore believes is the neurobiological core of the unconscious. If a child experiences insecure attachment, these experiences are "affectively burnt in" to the infant's developing right brain and are encoded as *internal working models*.

One of Schore's most important developmental contributions is his concept of the *rupture and repair sequence*. Attunement failures threaten to rupture the attachment bond, but these ruptures, if followed

by reattunement, can lead to a repair of that bond. This sequence leads to the acquisition of self-regulatory abilities, or psychological structure.

Barry J. Koch

See also Analytical Psychology: Carl Jung; Childhood, Concept of; Freud, Sigmund; Individual Psychology: Alfred Adler; Neurosciences and Learning; Recapitulation, Theory of; Rogers, Carl: Freedom to Learn

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PURE AND APPLIED RESEARCH AND PASTEUR'S QUADRANT

Education research historically has been torn between the impulse to address real problems of schooling and the awareness that credibility of research hinges on its methodological rigor. This tension has yielded important benefits that are not sufficiently understood or celebrated (National Research Council [NRC], 2002). Techniques such as meta-analysis were developed originally by scholars working in education and now are tools in epidemiology, medicine, criminal justice, and other fields. Econometric models, longitudinal studies of mobility and stratification, correlational studies of achievement, causal inference models, and advances in measurement have been developed by researchers hoping to improve schools and schooling. This entry discusses attempts to distinguish between pure and applied science and considers the influence of Donald Stokes's *Pasteur's Quadrant* on current thinking about the distinction and its application to research in education.

Tensions between the practical and theoretical inspirations of education research are embedded in the more general dichotomy of pure and applied science, which has been a focus of the philosophy of science at least since Aristotle worked on it in the 4th century BCE. During and after World War II, the basic/applied divide became central in debates over science policy, in the United States and elsewhere, thanks in large part to the influential work of Vannevar Bush (1944), who argued that basic science was the source of technological innovation. The so-called linear model, in which "innovation starts with basic research, is followed by applied research and development, and ends with production and diffusion," though typically attributed to Bush may have other origins (Godin, 2006, p. 639). In any case, applying it to education suggests a trajectory that starts with laboratory experiments on, for example, human cognition; proceeds to the development of testable hypotheses relevant to teaching; and results in techniques adopted by classroom educators.

Observation of how education research—and indeed most of science—originates, is conducted, and, ultimately, is used suggests a less linear route (see also NRC, 2012). Although Bush's assertion that the "federal government had both the authority

and the obligation to support basic research . . . has remained unerringly right" (Atkinson, 2006, p. 1), the bright line between basic and applied science is now viewed by many scholars as overdetermined and even, perhaps, as having "outlived its usefulness" (NRC, 2002, p. 20).

If the theory/practice distinction was seen as troublesome by some important scholars (e.g., Cronbach & Suppes, 1969), its weaknesses garnered renewed and wider attention, thanks to the work of the Princeton University political scientist Donald Stokes. In *Pasteur's Quadrant*, Stokes praised Bush's insights but worried that his "canon on the essential goal of basic research gives too narrow an account of the *motives that inspire* [italics added] such work" (Stokes, 1997, p. 5). Stokes's elegant 2 × 2 table (Figure 1), which represents what might be called the nonlinear alternative to Bush's model, has become a fixture in the science policy literature. Pure basic research, the type associated with theoretical physicists like Niels Bohr, is not influenced by considerations of use but rather by the quest for "fundamental understanding." Thomas Edison, in contrast, was motivated almost entirely by considerations of use and had little or no interest in advancing theoretical knowledge. The intermediate zone is associated with Louis Pasteur, whose work on crystallography and microbiology relied on and advanced basic science but was heavily use inspired.

Many education researchers would position themselves in the quadrant that Stokes named after Pasteur—that is, their work is use inspired but aims for basic and generalizable knowledge too. Scientific inquiry about schools and schooling is inspired by experience, relies on basic knowledge, and seeks to advance new knowledge that may not have obvious or immediate application. Simple linearities in the conventional rhetoric about "getting research into practice" are inadequate without consideration of "the wisdom of practice" (Shulman, 2004). Incorporating this "two-way street" means explicitly valuing experience, intuition, and motivation as progenitors of scientific inquiry generally and in education specifically (Feuer, 2006).

As theory, *Pasteur's Quadrant* sparked interest and reaction among scholars of science and science policy. And because it was written in a language easily accessible by people not necessarily trained in philosophy or political theory, the book reached wider audiences and helped crystallize emerging policy ideas about public funding of

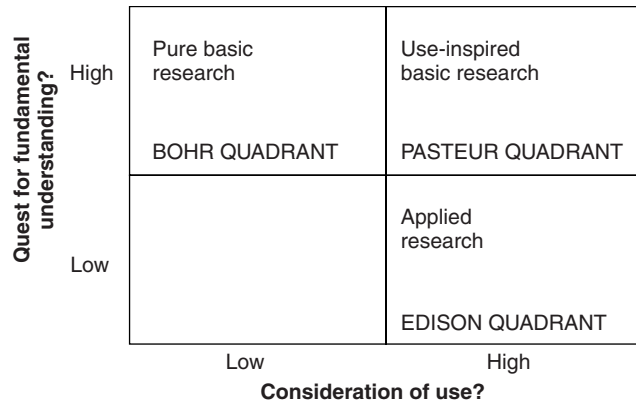


Figure 1 Stokes's Model of Scientific Research

Source: Adapted from Stokes (1997).

education research. Beginning with the administration of George W. Bush (no relation to Vannevar) and continuing through the Obama administration, Stokes's themes were clearly discernible.

Russ Whitehurst, the first director of the newly configured U.S. Institute of Education Sciences, is credited with the dominant emphasis on experimentation as the "gold standard" in research, a preference that led some critics to place him in or near the Bohr quadrant. Ironically, though, in his defense against those who found him removed from the real world of classrooms, Whitehurst likened himself to Edison, arguing for

the importance of activities in Edison's quadrant, particularly for topics in which there is a large distance between what the world needs and what realistically can be expected to flow from basic research, and for topics in which problem solutions are richly multivariate and contextual. (Whitehurst, 2003, p. 3)

His successor, John Easton, who had previously led a research consortium established to inform practice (Roderick, Easton, & Sebring, 2009), emphasizes theory and method as the cornerstones of useable research even if the agenda is inspired primarily by practitioners in the field. His goal for U.S. Institute of Education Sciences is to make "our research and evaluation more relevant and usable . . . while . . . building a stronger *science of education* [italics added]" (Easton, 2011, n.p.).

Regardless of which quadrant Whitehurst and Easton might argue is their most comfortable home, it is clear that they differ primarily in terms of the emphasis they place on user-generated versus

researcher-generated programs of study and in terms of their preference for different methodologies of scientific inquiry.

The debate over quality and use of education research is not likely to subside any time soon, especially as politicians responsible for federal budgets are tempted to curb spending on research that is not obviously applicable. This, too, is not a new phenomenon. *Pasteur's Quadrant* offers a useful framework for science policy, clarifies confusion over "basic" versus "applied" science, and can be a guide to consideration of specific challenges facing education theory and practice.

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See also Educational Research, Critiques of; Philosophical Issues in Educational Research: An Overview

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